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# The Auk

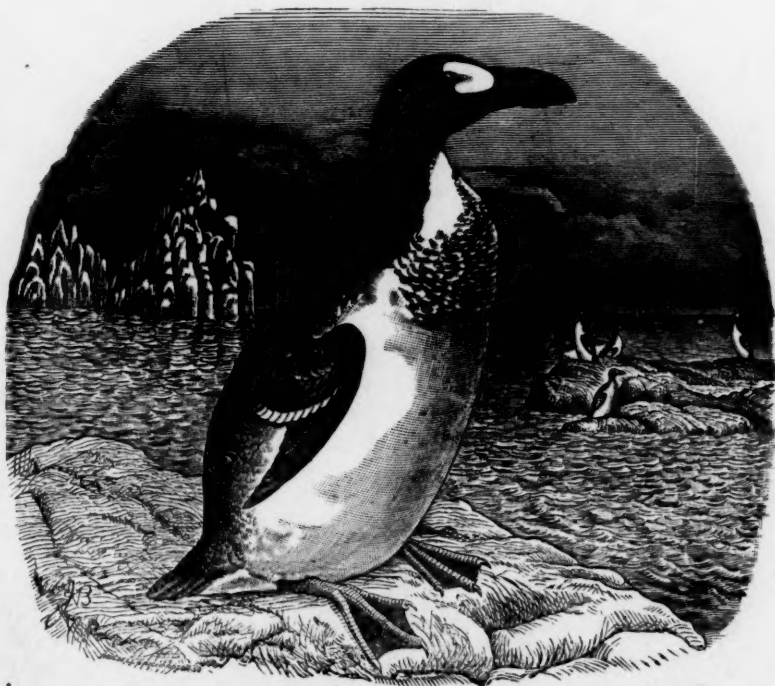
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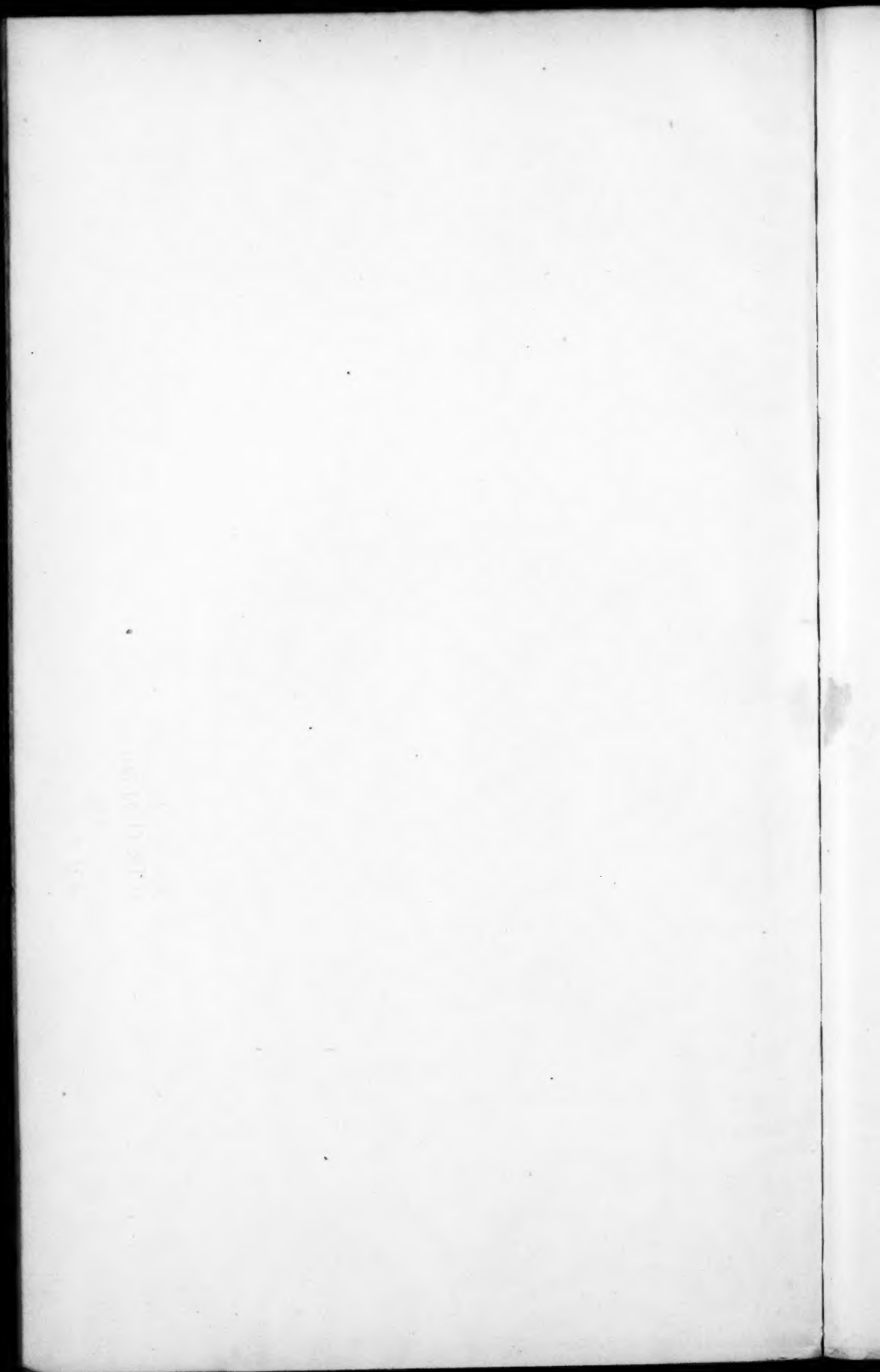
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HAYEK, DR. GUSTAV VON, Vienna.....	1884
HENSON, HARRY V., Yokohama.....	1888
HOLUB, DR. EMIL, Vienna.....	1884
HUDSON, WILLIAM HENRY, Tower House, St. Luke's Road, Westbourne Park, London, W.....	1895
KNUDSON, VALDEMAR, Kauai, Hawaiian Ids.....	1888
KRUKENBERG, DR. E. F. W., Würzburg, Germany.....	1884
KRÜPER, DR. THEOBALD J., University Museum, Athens, Greece.....	1884
LEGGE, WILLIAM V., Cullenswood House, St. Mary's, Tasmania.....	1891
LEVERKÜHN, PAUL, Sophia, Bulgaria.....	1890
MACFARLANE, ROBERT, Winnipeg, Manitoba.....	1886
MADARÁSZ, DR. JULIUS VON, National Museum, Budapest, Hungary.....	1884
MENZBIER, DR. M., Imperial Society of Naturalists, Moscow.....	1884
NAMIYE, M., Tokio.....	1886
NICHOLSON, FRANCIS, 84 Major St., Manchester, England.....	1884
OATES, EUGENE WILLIAM, 1 Carlton Gardens, Ealing, London, W.....	1884
ODDI, Count E. ARRIGONI DEGLI, University of Padua, Italy.....	1900
OUSTALET, DR. EMILE, Jardin des Plantes, 55 Rue de Buffon, Paris.....	1888
PALMÉN, Prof. J. A., Helsingfors, Finland.....	1883
PHILIPPI, DR. R. A., Santiago, Chili.....	1884
RADDE, DR. GUSTAV FERDINAND, Tiflis, Russia.....	1884
RAMSEY, E. P., Sydney, New South Wales.....	1884
RINGER, FREDERIC, Nagasaki, Japan.....	1888
ROTHSCHILD, Hon. L. WALTER, Zoöl. Museum, Tring, England.....	1898
SCHALOW, DR. HERMAN, 15 Schleswiger Ufer, Berlin, N. W.....	1884
SHELLEY, Capt. G. E., Tower House, Reigate, Surrey, England.....	1884
THEEL, DR. HJALMAR, University of Upsala, Upsala, Sweden.....	1884
TRISTRAM, Rev. Canon H. B., The College, Durham, England.....	1884
TSCHUSI ZU SCHMIDHOFFEN, Count VICTOR RITTER VON, Hallein, (Villa Tännenhof), Salzburg, Austria.....	1884
WATERHOUSE, F. H., 3 Hanover Square, London, W.....	1889
ZELEDON, Don JOSÉ C., San José, Costa Rica.....	1884

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ADAMS, Mrs. EMMA S., 40 Scott St., Chicago, Ills.....	1899
AIKEN, CHARLES EDWARD HOWARD, Colorado Springs, Colo.....	1898
ALLEN, CLARENCE JONES, 176 Biddle St., Milwaukee, Wis.....	1899
ALLEN, FRANCIS H., 4 Park St., Boston, Mass.....	1888
ALLEN, GLOVER M., 44 Perkins Hall, Cambridge, Mass.....	1896
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AMES, J. H., 96 Bay St., Toronto, Can.....	1895
ARCHER, W. C., 45 Chambers St., N. Y. City.....	1888
ARMSTRONG, EDWARD HENRY, 140 Wood St., Providence, R. I.....	1897
ARNOLD, EDWARD, 126 Van Buren St., Battle Creek, Mich.....	1894
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BAILEY, CHARLES E., 21 Middlesex St., Malden, Mass.....	1890
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BAILEY, VERNON, Dept. of Agriculture, Washington, D. C.....	1887
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BAKER, Miss EMILIE H., 8 West 57th St., New York City.....	1899
BANGS, EDWARD APPLETON, 22 Pemberton Sq., Boston, Mass.....	1884
BANGS, OUTRAM, 240 Beacon St., Boston, Mass.....	1884
BARBER, CHARLES M., Albuquerque, N. M.....	1900
BARBOUR, Prof. ERWIN H., Univ. of Neb., Lincoln, Nebraska.....	1892
BARLOW, CHESTER, Santa Clara, Cala.....	1894
BARNARD, JOB, 1306 Rhode Island Av., Washington, D. C.....	1886
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BEAL, F. E. L., 315 V. St., N. E., Washington, D. C.....	1887
BEARD, DANIEL CARTER, 204 Amity St., Flushing, N. Y.....	1887
BECK, ROLLO HOWARD, Berryessa, Santa Clara Co., Cala.....	1894
BEEBE, CHARLES WILLIAM, N. Y. Zoölogical Park, 183rd St. and Southern Boulevard, N. Y.....	1897
BEERS, HENRY W., 91 Denver Ave., Bridgeport, Conn.....	1895
BENT, ARTHUR CLEVELAND, Taunton, Mass.....	1889

BERGTOLD, Dr. W. H., 1460 Clayton Av., Denver, Colo. ....	1889
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BIGELOW, HENRY BRYANT, Cohasset, Mass. ....	1897
BIGELOW, JOSEPH SMITH, Jr., 251 Commonwealth Av., Boston Mass. ....	1896
BIGNELL, Mrs. EFFIE, 135 College Av., New Brunswick, N. J. ....	1899
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BLATCHLEY, W. S., State Geologist, Indianapolis, Ind. ....	1895
BOND, FRANK, 822 E. 19th St., Cheyenne, Wyoming. ....	1887
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BOWDITCH, HAROLD, Jamaica Plain, Boston, Mass. ....	1900
BOWLES, JOHN HOOPER, 401 So. G St., Tacoma, Wash. ....	1891
BRACKEN, Mrs. HENRY MARTYN, 1010 Fourth St., S. E., Minne- apolis, Minn. ....	1897
BRADFORD, Mrs. MARY F., 3804 St. Charles Av., New Orleans, La. ....	1897
BRADFORD, MOSES B. L., Concord, Mass. ....	1889
BRAISLIN, Dr. WILLIAM C., 217 St. James Place, Brooklyn, N. Y. ....	1894
BRANDRETH, FRANKLIN, Sing Sing, N. Y. ....	1889
BRENINGER, GEORGE FRANK, Phoenix, Arizona. ....	1898
BREWSTER, EDWARD EVERETT, Iron Mountain, Mich. ....	1893
BRIMLEY, CLEMENT S., New Berne Av., Raleigh, N. C. ....	1888
BROCK, HENRY HERBERT, M. D., 662 Congress St., Portland, Me. ....	1894
BROCKWAY, ARTHUR WILLIAM, Lyme, Conn. ....	1898
BROOKS, Rev. EARLE AMOS, Charlestown, W. Va. ....	1892
BROOKS, CLARENCE MORRISON, Keene, N. H. ....	1900
BROWN, EDWARD J., Lemon City, Dade Co., Florida. ....	1891
BROWN, HERBERT, Yuma, Arizona. ....	1885
BROWN, HUBERT H., 70 Collier St., Toronto, Ontario. ....	1889
BROWN, STEWARDSON, Germantown, Philadelphia, Pa. ....	1895
BROWN, WILMOT W., Jr., Somerville, Mass. ....	1892
BRUCE, Mrs. MARY EMILY, Easthampton, Mass. ....	1894
BRUNER, Prof. LAWRENCE, Univ. of Nebraska, Lincoln, Neb. ....	1899
BRYAN, WILLIAM ALANSON, Bishop Museum, Honolulu, H. Ids. ....	1898
BUCK, HENRY ROBINSON, Wethersfield, Conn. ....	1897
BULLARD, CHARLES, 67 Upland Road, Cambridge, Mass. ....	1896
BULLEY, REGINALD H., Canton, Ohio. ....	1889
BUNNELL, ALEXANDER STERLING, Berkeley, Calif. ....	1899
BURGESS, JOHN KINGSBURY, Dedham, Mass. ....	1898
BURNETT, WILLIAM L., Box 511, Fort Collins, Colo. ....	1895
BURNS, FRANK L., Berwyn, Chester Co., Pa. ....	1891
BURTIS, HENRY MOTT, Babylon, N. Y. ....	1897
BURTON, H. C., 228 South St., New York City. ....	1893
BUSWELL, WALTER MARDIN, Charlestown, N. H. ....	1897
BUTLER, AMOS W., 52 State House, Indianapolis, Ind. ....	1885



BUXBAUM, MRS. CLARA E., St. Joseph, Mich.....	1895
CALL, AUBREY BRENDON, Burlington, Vt.....	1894
CAMPBELL, HORATIO NELSON, Jr., Providence, R. I.....	1899
CARPENTER, CHARLES KNAPP, Pecatonica, Ill.....	1894
CARROLL, JAMES J., Waco, Texas.....	1898
CARSON, ROBERT DUNCAN, 419 W. Rittenhouse St., Germantown, Philadelphia, Pa.....	1899
CARY, MERRITT, Care of Univ. of Neb., Lincoln, Neb.....	1898
CASE, MRS. BESSIE B., Evanston, Ill.....	1900
CASE, CLIFFORD M., 54 Babcock St., Hartford, Conn.....	1892
CASH, HARRY A., 54 Spring St., Pawtucket, R. I.....	1898
CHAMBERLAIN, CHAUNCEY W., 36 Lincoln St., Boston, Mass.....	1885
CHAPIN, Prof. ANGIE CLARA, Wellesley College, Wellesley, Mass.....	1896
CHASE, MRS. AGNES, 5515 Monroe Av., Chicago, Ill.....	1896
CHERRIE, GEORGE K., 27 Fairview Place, Brooklyn, N. Y.....	1891
CHILDS, JOHN LEWIS, Floral Park, N. Y.....	1900
CHUBB, SAMUEL H., 73 W. 118th St., New York City.....	1894
CLARK, AUSTIN HOBART, Newtonville, Mass.....	1899
CLARK, EDWRAD B., 304 No. State St., Chicago, Ill.....	1900
CLARK, Dr. ERNEST L., Media, Pa.....	1899
CLARK, HUBERT LYMAN, Olivet College, Olivet, Mich.....	1886
CLARK, JOHN N., Box 34, Saybrook, Conn.....	1885
CLARK, JOSIAH H., 238 Broadway, Paterson, N. J.....	1895
CLARKE, Miss HARRIET E., 9 Chestnut St., Worcester, Mass.....	1896
CLEARWATERS, Rev. JOHN FRED, Oakland, Ill.....	1895
COALE, H. K., Highland Park, Ill.....	1883
COGGINS, HERBERT LEONARD, 5025 McKean Av., Germantown, Phila., Pa.....	1898
COLBURN, ALBERT E., 1233 G St., Washington, D. C.....	1891
COLLETT, ALONZO M., Denver High School, Denver, Colo.....	1897
COLLINS, JOHN ARTHUR, Jr., Lawrence, Mass.....	1900
COLVIN, WALTER S., Osawatomie, Kansas.....	1896
COMEAU, NAPOLEON A., Godbout, P. Q.....	1885
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COPE, ALBAN, Butler Hospital, Providence, R. I.....	1885
COPE, FRANCIS R., Jr., Dimock P. O., Pa.....	1892
COPELAND, Dr. ERNEST, 141 Goldsmith Bldg., Milwaukee, Wis.....	1897
COPELAND, MANTON, Taunton, Mass.....	1900
COUES, Dr. WILLIAM PEARCE, 90 Charles St., Boston, Mass.....	1888
COURT, EDWARD J., 3303 17th St., N. W., Washington, D. C.....	1899
COX, ULYSSES O., State Normal School, Mankato, Minn.....	1894
CRAM, R. J., 26 Hancock Ave., W., Detroit, Mich.....	1893
CRANDALL, C. W., Woodside, Queen's Co., N. Y.....	1891
CRAWFORD, JOHN, Lakefield, Minn.....	1899
CROLIUS, Miss ANNE A., 815 Carnegie Hall, New York City.....	1897



CURRIE, ROLLA P., Dept. Insects, U. S. Nat. Mus., Washington, D. C.....	1895
CURRIER, EDMONDE SAMUEL, 909 Franklin St., Keokuk, Iowa.....	1894
DAFFIN, WM. H., Tacony, Philadelphia, Pa.....	1892
DAGGETT, FRANK S., 255 Ramona St., Pasadena, Cala.....	1889
DANIEL, JOHN W., JR., 1700 19th St., N. W., Washington, D. C.....	1895
DART, LESLIE O., St. Barnabas Hospital, Minneapolis, Minn.....	1898
DAVENPORT, MRS. ELIZABETH BRAXTON, Brattleboro, Vt.....	1898
DAVIS, CLARENCE N., Branchport, N. Y.....	1897
DAVIS, Miss MARY A., 44 W. 93rd St., New York City.....	1898
DAVIS, STEWART, Narragansett Pier, R. I.....	1899
DAVIS, WALTER R., Newton, Mass.....	1900
DAWSON, Rev. WILLIAM LEON, Columbus, O.....	1895
DAY, CHESTER SESSIONS, 280 Newbury St., Boston, Mass.....	1897
DEAN, R. H., La Crosse, Wis.....	1893
DEANE, GEORGE CLEMENT, 80 Sparks St., Cambridge, Mass.....	1899
DEANE, WALTER, 29 Brewster St., Cambridge, Mass.....	1897
DE HAVEN, ISAAC NORRIS, Ardmore, Pa.....	1893
DERBY, RICHARD, No. 2 Beck Hall, Cambridge, Mass.....	1898
DEWEY, Dr. CHARLES A., 53 So. Fitzhugh St., Rochester, N. Y.....	1900
DEWEY, Miss MARGARET, 168 Pearl St., Springfield, Mass.....	1892
DICKINSON, JOSEPH A., Gresham, Nebr.....	1894
DICKINSON, W. S., Miami, Dade Co., Fla.....	1891
DILLE, FREDERIC M., Altona, Boulder Co., Colo.....	1892
DIONNE, C. E., Laval Univ., Quebec, Can.....	1893
DIXON, FREDERIC J., Elm Av., Hackensack, N. J.....	1891
DODGE, CHARLES W., Univ. of Rochester, Rochester, N. Y.....	1900
DODGE, FREDERICK CLINTON, 125 Milk St., Boston, Mass.....	1897
DOUBLEDAY, MRS. FRANK NELSON, 111 E. 16th St., New York City.....	1897
DOUGHERTY, Col. WILLIAM E., U. S. A., Manila, P. I.....	1890
DRAPER, Miss DOROTHEA, 19 E. 47th St., New York City.....	1899
DROWNE, FREDERICK PEABODY, 20 Benefit St., Providence, R. I.....	1899
DUGMORE, ARTHUR RADCLYFFE, South Orange, N. J.....	1899
DULL, Mrs. A. P. L., 211 No. Front St., Harrisburg, Pa.....	1900
DURFEE, OWEN, Fall River, Mass.....	1887
DUTCHER, Dr. BASIL HICKS, U. S. A., Fort Hancock, N. J.....	1886
DYCHE, Prof. L. L., Lawrence, Kansas.....	1886
EASTMAN, HARRY D., Framingham, Mass.....	1891
EATON, ELON HOWARD, Canandaigua, N. Y.....	1895
EDDY, NEWELL A., 615 North Grant St., Bay City, Mich.....	1885
EDGAR, NEWBOLD, 28 E. 39th St., New York City.....	1891
EDSON, JOHN M., New Whatcom, Washington.....	1886
ELROD, Prof. M. J., Univ. of Montana, Missoula, Montana.....	1892
EMBODY, GEORGE CHARLES, 78 Seymour St., Auburn, N. Y.....	1898
EMERSON, CHARLES J., Stoneham, Mass.....	1896
EMERY, Mrs. ANNIE C., Ellsworth, Me.....	1897

EMLEN, ARTHUR COPE, Awbury, Germantown, Philadelphia, Pa....	1896
EMORY, MRS. MARY DILLE, Morgantown, W. Va.....	1899
EVANS, ERNEST MERWYN, Awbury, Germantown, Philadelphia, Pa..	1897
EVANS, WILLIAM B., Moorestown, N. J.....	1897
EVERMAN, Prof. BARTON W., U. S. Fish Comm., Washington, D. C.	1883
FANNIN, JOHN, Provincial Museum, Victoria, B. C.....	1888
FARLEY, JOHN A., 17 Russell St., Malden, Mass.....	1892
FARR, MARCUS S., 29 Vandeventer St., Princeton, N. J.....	1900
FARWELL, MRS. ELLEN DRUMMOND, Lake Forest, Ill.....	1896
FARWELL, MRS. FRANCIS COOLEY, Lake Forest, Ill.....	1898
FELGER, ALVA HOWARD, 2628 Clay St., Denver, Col.....	1898
FERNALD, ROBERT HEYWOOD, 296 Manhattan Av., New York City..	1890
FERRY, JOHN FARWELL, Lake Forest, Ill.....	1894
FIELD, EDWARD BRONSON, 981 Asylum Av., Hartford, Conn.....	1898
FIELD, EUGENE DWINELL, 68 Beacon St., Hartford, Conn.....	1899
FIELD, THERON R., 737 Clarkson St., Denver, Colo.....	1900
FISHER, Miss ELIZABETH WILSON, 1502 Pine St., Philadelphia, Pa..	1896
FISHER, WALTER KENRICK, Stanford Univ., Calif.....	1899
FISHER, WILLIAM H., 1320 Bolton St., Baltimore, Md.....	1895
FISHER, WILLIAM HUBBELL, Wiggins Block, Cincinnati, Ohio.....	1883
FLANAGAN, JOHN H., 392 Benefit St., Providence, R. I.....	1898
FLEMING, JAMES H., 267 Rusholme Road, Toronto, Can.....	1893
FLETCHER, MRS. MARY E., Ludlow, Vermont.....	1898
FLINT, HARRY W., Yale National Bank, New Haven, Conn.....	1888
FOOTE, Miss F. HUBERTA, Inwood-on-Hudson, New York City.....	1897
FORBUSH, EDWARD H., Wareham, Mass.....	1887
FOSTER, FRANCIS APTHORP, 15 Oxford St., Cambridge, Mass.....	1893
FOWLER, FREDERICK HALL, Palo Alto, Calif.....	1892
FOWLER, HENRY W., Holmesburg, Philadelphia, Pa.....	1898
FOX, Dr. WILLIAM H., 1826 Jefferson Place, Washington, D. C.....	1883
FUERTES, LOUIS AGASSIZ, 13 East Av., Ithaca, N. Y.....	1891
FULLER, CHARLES ANTHONY, Sumner Road, Brookline, Mass.....	1894
GARBUTT, STUART BENNETT, Fort Collins, Colo.....	1898
GARDE, ANDREW EARL, 28 Chestnut St., Willimantic, Conn.....	1899
GAUT, JAMES H., 1407 6th St., N. W., Washington, D. C.....	1899
GESNER, Rev. ANTHON T., Billings, Mont.....	1899
GILLET, LOUIS BLISS, 131 E. 76th St., New York City.....	1895
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GLEASON, Rev. HERBERT W., 9 Walnut St., Boston, Mass.....	1894
GLENNAN, Dr. JAMES DENVER, U. S. A., Fort Myer, Va.....	1898
GOLDMAN, EDWARD ALPHONSO, U. S. Dept. Agl., Washington, D. C.	1897
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GOULD, HENRY, 648 Dundas St., London, Ontario.....	1899
GOULD, JOSEPH E., 519 Lookout St., Chattanooga, Tenn.....	1889
GRANGER, WALTER W., Am. Mus. Nat. Hist., New York City.....	1891
GRAY, RALPH W., 79 Marlborough St., Boston, Mass.....	1896

GREEN, MORRIS M., Bay City, Mich.....	1886
GRIFFING, MOSES BOWDITCH, Shelter Island Heights, N. Y.....	1897
GRINNELL, JOSEPH, Palo Alto, Cala.....	1894
HALES, HENRY, Ridgewood, N. J.....	1890
HALL, GARDNER W., 122 Jackson Place, Baltimore, Md.....	1900
HALL, Miss MINNA B., Brookline, Mass.....	1900
HAM, JUDSON BAXTER, Johnson, Vt.....	1894
HAMFELDT, A., 305 Main St., Ottawa, Ill.....	1892
HAMLIN, GEORGE L., Bethel Conn.....	1893
HANKINSON, THOMAS LEROY, 1184 Cascadilla Place, Ithaca, N. Y.....	1897
HARDY, MANLY, Brewer, Maine.....	1883
HARRIMAN, Miss CORNELIA, 1 E. 55th St., New York City.....	1899
HARRIMAN, Miss MARY, 1 E. 55th St., New York City.....	1899
HARRIS, WILLIAM C., Utica, N. Y.....	1894
HARTZELL, Prof. JOSEPH CULVER, Ills. Wesleyan Univ., Bloomington, Ill.....	1892
HARVEY, HERBERT A., 113 Main St., Bradford, Pa.....	1899
HATHAWAY, HENRY S., Box 498, Providence, R. I.....	1897
HAVEMEYER, H. O., Jr., So. 4th and Kent Av., Brooklyn, N. Y.....	1893
HAY, WILLIAM PERRY, Howard Univ., Washington, D. C.....	1893
HAZARD, Miss MARY PEACE, Peace Dale, R. I.....	1896
HAZARD, R. G., Peace Dale, R. I.....	1885
HECOX, Miss LAURA J. F., Light House Keeper, Santa Cruz, Cala.....	1897
HEDGES, CHARLES F., Miles City, Mont.....	1892
HEIMSTREET, Dr. T. B., 14 Division St., Troy, N. Y.....	1888
HELME, ARTHUR H., Millers Place, Suffolk Co., N. Y.....	1888
HENDRICKSON, W. F., 130 12th St., Long Island City, N. Y.....	1885
HENNINGER, Rev. WALTHER F., Waverly, Ohio.....	1898
HENRY, Miss MARY CATHERINE, 28 Freeland St., Worcester, Mass.....	1898
HIGBEE, HARRY G., Hyde Park, Mass.....	1900
HIGGINSON, ALEXANDER HENRY, Lincoln, Mass.....	1899
HILL, JAMES HAYNES, Box 485, New London, Conn.....	1897
HINDSHAW, HENRY HAVELOCK, Johns Hopkins Univ., Baltimore, Md.....	1897
HINE, Prof. JAMES STEWART, State Univ., Columbus, O.....	1899
HINE, Mrs. JANE L., Sedan, Ind.....	1890
HINKLEY, ARTHUR MERRIMAN, Box 54, North Middleboro, Mass.....	1898
HINTON, Miss SUSAN McV., 41 W. 32d St., New York City.....	1900
HITCHCOCK, FRANK H., Dept. of Agriculture, Washington, D. C.....	1891
HODGE, Prof. CLIFTON FREMONT, Clark Univ., Worcester, Mass.....	1899
HOFFMAN, RALPH, Belmont, Mass.....	1893
HOLDEN, EDWARD FREEMAN, 32 Lake Av., Melrose, Mass.....	1896
HOLLAND, Dr. WILLIAM J., 5th and Bellefield Aves., Pittsburgh, Pa.....	1899
HOLLISTER, NED, Delavan, Wis.....	1894
HOLSTEIN, OTTO, 910 Ave. C, San Antonio, Texas.....	1898
HOOPEs, JOSIAH, West Chester, Pa.....	1889

HOOVER, THEODORE JESSE, Stanford Univ., Cala.....	1898
HORNADAY, W. T., Zoölogical Park, New York City.....	1888
HORTON, Mrs. FRANCES B., Brattleboro, Vt.....	1900
HORN BROOKE, Mrs. ORINDA DUDLEY, Newton, Mass.....	1897
HOWARD, OZORA WILLIAM, Fort Huachuca, Ariz.....	1898
HOWE, REGINALD HEBER, Jr., Longwood, Brookline, Mass.....	1895
HOWELL, ARTHUR H., Dept. of Agriculture, Washington, D. C.....	1889
HUBBARD, GEORGE W., 94 Byers St., Springfield, Mass.....	1900
HUBBARD, Miss MARGARET TUESDALE, Minneapolis, Minn.....	1899
HUBBARD, Mrs. SARA A., 177 Woodruff Av., Flatbush, N. Y.....	1891
HUGHES, Dr. WILLIAM E., 3945 Chestnut St., Philadelphia, Pa.....	1891
HULL, WALTER B., Box 1234, Milwaukee, Wis.....	1889
HUNN, JOHN T. SHARPLESS, 1218 Prospect Av., Plainfield, N. J.....	1895
HUNTER, Miss SUSAN MORRISON, 51 Hunter Av., Newport, R. I.....	1894
HUNTER, W. D., Victoria, Texas.....	1899
INGALLS, CHARLES E., East Templeton, Mass.....	1885
INGERSOLL, ALBERT M., 818 5th St., San Diego, Cala.....	1885
IRVING, JOHN, 550 Park Av., New York City.....	1894
ISHAM, C. B., 30 E. 63d St., New York City.....	1891
JACKSON, THOMAS H., 343 E. Biddle St., West Chester, Pa.....	1888
JACOBS, J. WARREN, Waynesburg, Pa.....	1889
JAMES, Miss ANNIE A., Loveland, O.....	1900
JANNEY, NATHANIEL E., Broad and Chestnut Sts., Phila., Pa.....	1899
JEFFRIES, WILLIAM AUGUSTUS, 78 Devonshire St., Boston, Mass....	1883
JESURUN, Dr. MORTIMER, Douglas, Wyoming.....	1890
JOB, Rev. HERBERT K., Kent, Connecticut.....	1896
JOHNSON, EVERETT EDWIN, Lewiston, Me.....	1896
JOHNSON, FRANK EDGAR, 747 Warburton Av., Yonkers, N. Y.....	1888
JOHNSON, JAMES HOWARD, So. Sutton, N. H.....	1894
JOHNSON, WALTER ADAMS, 137 W. 103d St., New York City.....	1898
JOHNSON, WILLIAM S., Boonville, N. Y.....	1893
JONES, LYND, College Museum, Oberlin, Ohio.....	1888
JORDAN, A. H. B., Lowell, Wash.....	1888
JORDAN, Prof. DAVID STARR, Stanford University, Cala.....	1885
JUDD, SYLVESTER D., Dept. Agriculture, Washington, D. C.....	1893
KEYS, JAMES EDWARD, 859 Wellington St., London, Ont.....	1899
KELKER, WILLIAM A., Box 114, Harrisburg, Pa.....	1896
KELLOGG, VERNON L., Stanford University, Cala.....	1888
KENDALL, Dr. WILLIAM C., U. S. Fish Comm., Washington, D. C..	1886
KENNARD, FREDERIC HEDGE, Brookline, Mass.....	1892
KEYSER, Rev. LEANDER S., 723 So. 5th Av., Atchison, Kan.....	1891
KING, GEORGE GORDON, 62 William St., New York City.....	1888
KIRKWOOD, FRANK C., 1500 Bolton St., Baltimore, Md.....	1892
KITE, NATHAN, 723 N. 44th St., Philadelphia, Pa.....	1899
KNETSCH, ROBERT, Nunda, Ills.....	1898
KNIGHT, ORA WILLIS, 84 Forest Av., Bangor, Me.....	1893

KNOLHOFF, FERDINAND WILLIAM, 28 Winans St., East Orange, N. J.	1897
KNOWLTON, F. H., U. S. Nat. Mus., Washington, D. C.	1883
KNOX, JOHN C., 14 State St., Auburn, N. Y.	1897
KNOX, JOHN COWING, Jackson, Minn.	1899
KOBBE, WILLIAM H., Fort Mason, San Francisco, Cala.	1898
KOCH, Prof. AUGUST, Williamsport, Pa.	1891
KOCH, FREDERIC W., Berkeley, Cala.	1891
KOHN, GUSTAVE, 14 Carondelet St., New Orleans, La.	1886
KOPMAN, HENRY HAZLITT, Covington, La.	1899
KOUMLY, Rev. PIRMIN M., St. Benedict's College, Atchison, Kansas.	1892
KUMLIEN, LUDWIG, Milton, Wis.	1895
LACEY, HOWARD GEORGE, Kerrville, Texas.	1899
LADD, SAMUEL B., Westchester, Pa.	1889
LANO, ALBERT, Aitkin, Minn.	1890
LANTZ, Prof. DAVID ERNEST, Acad. of Sciences, Alma, Kans.	1885
LATIMER, Miss CAROLINE P., 63 Remsen St., Brooklyn, N. Y.	1898
LEE, Miss MARY, 5131 Morris St., Germantown, Pa.	1898
LEUTLOFF, HERMAN C. A., 633 E. 135th St., New York City.	1896
LEVERING, THOMAS HENRY, 1435 Chapin St., Washington, D. C.	1898
LIBBY, ORIN GRANT, 426 Bruen St., Madison, Wis.	1900
LINK, GUSTAV A., 50 Boggs Av., Pittsburgh, Pa.	1899
LLOYD, ANDREW JAMES, 310 Boylston St., Boston, Mass.	1900
LONG, HORACE B., 14 Anna St., Worcester, Mass.	1889
LOOMIS, JOHN A., Paint Rock, Concho Co., Texas.	1887
LORING, J. ALDEN, Zoölogical Park, New York City.	1889
LOWBER, Miss EMMA WORRELL, 2045 Locust St., Philadelphia, Pa.	1898
LOWE, WILLOUGHBY P., Okehampton, Devon, Eng.	1893
LUDLAM, CHRISTOPHER, Ocean City, Md.	1900
LUSK, RICHARD D., Fort Huachuca, Ariz.	1894
MACDOUGALL, GEORGE R., 112 Wall St., New York City.	1890
MACKAY, GEORGE H., Nantucket, Mass.	1890
MADDOCK, Miss EMELINE, 32 So. 21st St., Philadelphia, Pa.	1897
MAILLIARD, JOHN W., 307 Sansome St., San Francisco, Cala.	1895
MAILLIARD, JOSEPH, San Geronimo, Cala.	1895
MAIRES, Dr. WALTER W., 939 N. 12th St., Philadelphia, Pa.	1899
MAITLAND, ROBERT L., 35 Nassau St., New York City.	1889
MALI, CHARLES M., Verviers, Belgium.	1889
MARSH, DANIEL J., Springfield, Mass.	1894
MASON, HOWARD HARRIS, 325 W. 56th St., New York City.	1897
MASTERMAN, ELMER ELLSWORTH, New London, Ohio.	1895
MATHEWS, Miss CAROLINE, Waterville, Me.	1898
MAULE, WILLIAM MARIS, Collins, Pa.	1897
MCCCLINTOCK, Norman, Amberson Av., Pittsburgh, Pa.	1900
MCCOOK, PHILIP JAMES, 32 E. 45th St., New York City.	1895
MCCORMICK, Miss ELIZA, 101 No. Front St., Harrisburg, Pa.	1900
MCGREGOR, RICHARD C., Box 258, Palo Alto, Cala.	1889



McHATTON, DR. HENRY, Macon, Ga.....	1898
McILHENNY, EDWARD AVERY, Avery's Island, La.....	1894
McKECHNIE, FREDERICK BRIDGHAM, Ponkapog, Mass.....	1900
McLAIN, ROBERT BAIRD, cor. Market & 12th Sts., Wheeling, W. Va..	1893
McNULTY, HENRY A., So. Orange, N. J.....	1900
MEAD, GEORGE S., 2203 Central Av., San Francisco, Cala.....	1898
MEARNS, LOUIS DI ZEREGA, Fort Adams, Newport, R. I.....	1899
MEEKER, MR. JESSE C. A., 746 E. Main St., Bridgeport, Conn.....	1899
MERRILL, MISS HARRIET BELL, Downer College, Milwaukee, Wis....	1899
MERRILL, HARRY, Bangor, Maine.....	1883
MICKLE, THOMAS MCK., Charlotte, N. C.....	1900
MILLER, GERRIT SMITH, JR., U. S. Nat. Mus., Washington, D. C....	1886
MILLER, JAMES HENRY, Lowville, N. Y.....	1894
MILLER, MISS MARY MANN, 827 De Kalb Ave, Brooklyn, N. Y.....	1898
MILLER, MRS. OLIVE THORNE, 827 De Kalb Ave., Brooklyn, N. Y....	1887
MILLER, WALDRON DE WITT, Plainfield, N. J.....	1896
MILLS, PROF. WILLIAM C., State Univ., Columbus, O.....	1900
MITCHELL, MRS. MINA BAKER, Care of Plow Co., Chattanooga, Tenn.	1898
MITCHELL, WALTON I., 1721 Mt. Vernon St., Philadelphia, Pa.....	1893
MONTGOMERY, THOMAS H., JR., Univ. Pennsylvania, Phila., Pa.....	1899
MOON, JOACHIM RICHARD, 934 Broadway, Camden, N. J.....	1898
MOORE, ROBERT THOMAS, Haddonfield, N. J.....	1898
MOORE, WILLIAM HENRY, Scotch Lake, New Brunswick.....	1900
MORCOM, G. FREAN, 512 Coronado St., Los Angeles, Cala.....	1886
MORRELL, CLARENCE HENRY, Pittsfield, Me.....	1897
MORRIS, GEORGE SPENCER, Olney, Philadelphia, Pa.....	1887
MORRIS, ROBERT O., Springfield, Mass.....	1888
MORSE, GEORGE W., Ashley, Ind.....	1898
MORTON, HOWARD McILVAIN, 316 Clifton Av., Minneapolis, Minn..	1900
MOSHER, FRANK H., 283 Pleasant St., Malden, Mass.....	1898
MURDOCH, JOHN, 195 Walnut Ave., Roxbury, Mass.....	1883
MYERS, MISS LUCY F., "Brookside," Poughkeepsie, N. Y.....	1898
NASH, HERMAN W., Pueblo, Colorado.....	1892
NELSON, JAMES ALLEN, 248 S. 39th St., Philadelphia, Pa.....	1898
NEWBURY, FREDERICK EARL, 82 Westminster St., Providence, R. I..	1897
NEWMAN, STEPHEN M., D. D., 1818 M. St., N. W., Washington,	
D. C.....	1898
NICHOLS, JOHN M., Portland, Me.....	1890
NICHOLSON, RICHARD R., Winnipeg, Manitoba.....	1900
NORRIS, REV. JAMES AVERY, Glen Cove, N. Y.....	1894
NORRIS, J. PARKER, 723 Walnut St., Philadelphia, Pa.....	1886
NORTON, ARTHUR H., Westbrook, Maine.....	1890
NORTON, ARTHUR HENRY WHITELEY, San Antonio, Texas.....	1894
NORTON, PROF. RICHARD, "Shady Hill," Cambridge, Mass.....	1888
NOWELL, JOHN ROWLAND, Anderson, S. C.....	1897
OBERHOLSER, HARRY C., Dept. of Agriculture, Washington, D. C....	1888



O'CONNOR, HALDEMAN, 25 No. Front St., Harrisburg, Pa.....	1896
OGDEN, DR. HENRY VINING, 141 Wisconsin St., Milwaukee, Wis....	1897
OLDS, HENRY WORTHINGTON, Dept. of Agriculture, Washington, D. C.....	1896
OLIVER, HENRY KEMBLE, 2 Newbury St., Boston, Mass.....	1900
O'NEIL, EDWARD, Sewickley, Allegheny Co., Pa.....	1893
OSBORN, CHASE SALMON, Sault Ste. Marie, Mich.....	1893
OSBURN, RAYMOND CARROLL, Fargo College, Fargo, N. D.....	1899
OSBURN, REV. WILLIAM, 107 University St., Nashville, Tenn.....	1890
OSGOOD, WILFRED HUDSON, Dept. of Agriculture, Washington, D. C.	1893
OWEN, CHARLES C., 340 William St., East Orange, N. J.....	1896
OWEN, Miss JULIETTE AMELIA, 306 No. 9th St., St. Joseph, Mo.....	1897
PAGE, Mrs. ALICE WILSON, Hotel Margaret, Brooklyn, N. Y.....	1896
PAINE, AUGUSTUS G., Jr., Times Building, New York City.....	1886
PALMER, DR. THEODORE S., Dept. of Agriculture, Washington, D. C.	1888
PALMER, SAMUEL COPELAND, Swarthmore, Pa.....	1899
PARKER, WENDELL PHILIPS, 2 Midland St., Worcester, Mass.....	1897
PATTEN, Mrs. JEANIE MAWRY, 3033 P. St., N. W., Washington, D. C.	1900
PEABODY, WILLIAM RODMAN, 13 Kirkland St., Cambridge, Mass....	1890
PEARSON, T. GILBERT, Guilford College, N. C.....	1891
PENNOCK, CHARLES J., Kennett Square, Chester Co., Pa.....	1888
PERKINS, CHARLES E., Box 854, Hartford, Conn.....	1888
PETERSON, Prof. J. P., West Denmark, Polk Co., Wis.....	1885
PHELPS, Mrs. ANNA BARDWELL, Box 36, Northfield, Mass.....	1899
PHILLIPS, A. H., Princeton, N. J.....	1891
PIERCE, A. K., Renovo, Pa.....	1891
PLIMPTON, Prof. GEORGE L., Tilton, N. H.....	1900
POE, Miss MARGARETTA, 1500 Park Ave., Baltimore, Md.....	1899
POMEROY, FRED ELMER, 164 Holland St., Lewiston, Me.....	1899
POMEROY, HARRY KIRKLAND, Kalamazoo, Mich.....	1894
PORTER, LOUIS H., 55 E. 54th St., New York City.....	1893
POTTER, RAYMOND B., Box 491, Nyack, N. Y.....	1895
PRAEGER, WILLIAM E., Streator, Ill.....	1892
PREBLE, EDWARD A., Dept. of Agriculture, Washington, D. C.....	1892
PRICE, WILLIAM W., Alta, Cal.....	1893
PROCTOR, DR. F. I., 369 Marlborough St., Boston, Mass.....	1900
PROCTOR, Miss MARY A., Franklin Falls, N. H.....	1900
PURDY, JAMES B., Plymouth, Mich.....	1893
RALPH, DR. WILLIAM L., U. S. Nat. Mus., Washington, D. C.....	1888
RANN, Mrs. MARY L., Manchester, Iowa.....	1893
RATHBUN, FRANK R., 42½ Franklin St., Auburn, N. Y.....	1883
RAWSON, CALVIN LUTHER, Box 33, Norwich, Conn.....	1885
READ, ALBERT M., 1140 15th St., N. W., Washington, D. C.....	1895
READY, GEORGE HENRY, Phoenix, Ariz.....	1900
REAGH, DR. ARTHUR LINCOLN, 39 Maple St., West Roxbury, Mass...	1896
REDFIELD, Miss ELISA WHITNEY, 107 No. 34th St., Philadelphia Pa.	1897

REDINGTON, ALFRED POETT, Santa Barbara, Cala.....	1890
REED, J. HARRIS, 4537 Pulaski Av., Germantown, Philadelphia, Pa..	1890
REED, HOWARD S., 2918 Lafayette St., Denver, Colo.....	1894
REED, HUGH DANIEL, Cornell Univ., Ithaca, N. Y.....	1900
RHOADS, CHARLES J., Bryn Mawr, Pa.....	1895
RHOADS, SAMUEL N., Audubon, Camden Co., N. J.....	1885
RICHARDS, Miss HARRIET E., Brookline, Mass.....	1900
RICHARDS, JOHN BION, Fall River, Mass.....	1888
RICHARDSON, JOHN KENDALL, Wellesley Hills, Mass.....	1896
RICKER, EVERETT WILDER, 16 Alveston St., Jamaica Plains, Mass....	1894
RIDGWAY, JOHN L., U. S. Geol. Surv., Washington, D. C.....	1890
RIKER, CLARENCE B., Maplewood, N. J.....	1885
RILEY, JOSEPH H., Falls Church, Va.....	1897
RITCHIE, SANFORD, Dover, Me.....	1900
RIVES, Dr. WILLIAM C., 1723 I St., Washington, D. C.....	1885
ROBINS, Mrs. JULIA STOCKTON, 114 S. 21st St., Philadelphia, Pa....	1895
ROBERTS, Miss ETHEL DANE, 78 Pittsburg Av., Wooster, Ohio.....	1899
ROBINSON, Capt. WIRT, U. S. A., West Point, N. Y.....	1897
RODDY, Prof. H. JUSTIN, State Normal School, Millersville, Pa.....	1891
ROOSEVELT, FRANKLIN DELANO, Hyde Park, N. Y.....	1896
ROOSEVELT, Hon. THEODORE, Oyster Bay, Queens Co., N. Y.....	1888
ROTZELL, Dr. W. E., Narberth, Pa.....	1893
ROWLAND, Mrs. ALICE STORY, 511 W. 7th St., Plainfield, N. J.....	1897
ROWLEY, JOHN, Jr., Am. Mus. Nat. Hist., New York City.....	1889
RUSSEL, HOWLAND, 106 Mason St., Milwaukee, Wis.....	1899
SAGE, HENRY M., care of H. S. Sage & Co., Albany, N. Y.....	1885
SAMPSON, WALTER BEHRNARD, 921 No. Monroe St., Stockton, Cala.....	1897
SARGENT, HARRY CLEVELAND, Chocoma, N. H.....	1900
SAVAGE, JAMES, 134 Abbott St., Buffalo, N. Y.....	1895
SAVAGE, WALTER GILES, Jasper City, Mo.....	1898
SCHALER, JOHN, Stamford, Conn.....	1893
SCHOENEBECK, AUGUST JOHN, Kelley Brook, Wis.....	1898
SCHURR, Prof. THEODORE A., 14 Lake St., Pittsfield, Mass.....	1888
SCHWAB, Rev. LAWRENCE H., 549 W. 156th St., New York City.....	1892
SCUDDER, BRADFORD A., Public Library, Taunton, Mass.....	1893
SEALE, ALVIN, Bishop Mus., Honolulu, H. I.....	1900
SEISS, COVINGTON FEW, 1338 Spring Garden St., Philadelphia, Pa....	1898
SHATTUCK, EDWIN HAROLD, Granby, Conn.....	1898
SHATTUCK, GEORGE CHEEVER, 135 Marlboro St., Boston, Mass.....	1896
SHAW, FREDERICK A., 75 Washburn Av., Portland, Me.....	1900
SHAW, HOLTON A., Grand Forks, No. Dakota.....	1898
SHELDON, CHARLES, Apartado 46, Chihuahua, Mexico.....	1898
SHEPARD, MARSHALL, 280 Amsterdam Av., New York City.....	1899
SHEPPARD, EDWIN, Acad. Nat. Sci., Philadelphia, Pa.....	1892
SHERRILL, W. E., Haskell, Texas.....	1896
SHIELDS, ALEXANDER M., Crocker Bldg., San Francisco, Cala.....	1896

SHIELDS, GEORGE O., 23 W. 24th St., New York City.....	1897
SHOEMAKER, FRANK H., Omaha, Neb.....	1895
SHOVE, ELLEN MARIAN, Fall River, Mass.....	1900
SHROSBREE, GEORGE, Public Mus., Milwaukee, Wis.....	1899
SHRYOCK, WILLIAM A., 21 N. 7th St., Philadelphia, Pa.....	1893
SILLOWAY, PERLEY MILTON, Lewiston, Mont.....	1896
SLEEPER, Prof. JOSEPH J., 1035 W. Tioga St., Philadelphia, Pa.....	1900
SLEVIN, THOMAS EDWARDS, 2413 Sacramento St., San Francisco, Cala.....	1900
SMITH, CHARLES PIPER, 246 So. Grant St., West Lafayette, Ind.....	1898
SMITH, HORACE G., 2918 Lafayette St., Denver, Colo.....	1888
SMITH, Dr. HUGH M., 1248 New Jersey Ave., Washington, D. C.....	1886
SMITH, ROBERT WINDSOR, Kirkwood, Ga.....	1895
SMITH, THEODORE H., 22 Essex Ave., Orange, N. J.....	1896
SMITH, S. SIDNEY, 59 Wall St., New York City.....	1888
SMYTH, Prof. ELLISON A., Jr., Polytechnic Inst., Blacksburg, Va.....	1892
SNYDER, WILL EDWIN, Beaver Dam, Wis.....	1895
SORNBORGER, JEWELL D., Cambridge, Mass.....	1888
SOUTHARD, ROBERT HAMILTON, 203 W. 117th St., New York City.....	1898
SOUTHWICK, JAMES M., Mus. Nat. Hist., Providence, R. I.....	1896
SPAULDING, FRED B., Lancaster, N. H.....	1894
SPINNEY, HERBERT L., Popham Beach, Me.....	1900
STACK, FREDERICK WILLIAM, Plainfield, N. J.....	1900
STANTON, Prof. J. Y., Bates College, Lewiston, Me.....	1883
STEINMETZ, FRANK JACOB, Carson City, Nev.....	1899
STEPHENS, FRANK, cor. University & Fillmore Aves., San Diego, Cala.....	1883
STEPHENSON, Mrs. LOUISE MCGOWN, Helena, Ark.....	1894
STONE, CLAYTON ELBERT, Lunenburg, Mass.....	1899
STONE, DWIGHT D., Lansing, N. Y.....	1891
STRONG, REUBEN M., 1699 Cambridge St., Cambridge, Mass.....	1889
STUDER, JACOB HENRY, 114 Fifth Ave., New York City.....	1888
STURTEVANT, EDWARD, St. George School, Newport, R. I.....	1896
SUTTON, GEORGE BYRON, Newark Valley, N. Y.....	1896
SWAIN, JOHN MERTON, 319 Commercial St., Portland, Me.....	1899
SWARTH, HARRY S., 512 Coronado St., Los Angeles, Calif.....	1900
TALLEY, Prof. THOMAS WASHINGTON, Tuskegee, Ala.....	1896
TAYLOR, ALEXANDER O'DRISCOLL, 124 Bellevue Ave., Newport, R. I.....	1888
TEST, Dr. FREDERICK CLEVELAND, 4401 Indiana Ave., Chicago, Ill.....	1892
THAYER, ABBOTT H., Scarborough, N. Y.....	1896
THAYER, JOHN ELIOT, Lancaster, Mass.....	1898
THOMAS, HOWARD WELLS, 133 W. 63d St., New York City.....	1898
THOMPSON, Miss CAROLINE B., Clapier St., Germantown, Phil., Pa.....	1900
THOMPSON, ERNEST SETON, 144 5th Av., New York City.....	1883
TODD, LOUIS M., Calais Me.....	1887

TODD, W. E. CLYDE, Beaver, Pa.....	1890
TOPPAN, GEORGE L., 321 Main St., Racine, Wis.....	1886
TORREY, BRADFORD, Wellesley Hills, Mass.....	1883
TOWNSEND, CHARLES H., U. S. Fish Comm., Washington, D. C.....	1883
TOWNSEND, WILMOT, 3d Av. and 75th St., Bay Ridge, N. Y.....	1894
TREAT, WILLARD E., Silver Lane, Conn.....	1885
TROTTER, DR. SPENCER, Swarthmore College, Swarthmore, Pa.....	1888
TROTTER, WILLIAM HENRY, 36 No. Front St., Philadelphia, Pa.....	1899
TROY, MISS GERTRUDE ESTELLA, 578 E. 60th St., Chicago, Ills.....	1899
TUTTLE, DR. CARL, Berlin Heights, Ohio.....	1890
UNDERWOOD, WILLIAM LYMAN, Belmont, Mass.....	1900
UTTER, HERBERT LAMB, 792 Hancock St., Brooklyn, N. Y.....	1898
VAN CORTLANDT, MISS ANNE S., Croton-on-Hudson, N. Y.....	1885
VAN DENBURGH, DR. JOHN, Los Gatos, Cal.....	1893
VAN NAME, WILLARD GIBBS, 121 High St., New Haven, Conn.....	1900
VAN NORDEN, WARNER MONTAGNIE, 25 Nassau St., New York City.....	1899
VAN SANT, MISS ELIZABETH, City Hall, Omaha, Neb.....	1896
VAN SCHAICK, MISS FRANCES E., Highland Park, Ills.....	1900
VARICK, MRS. JOHN B., 537 Union St., Manchester, N. H.....	1900
VETTER, DR. CHARLES, JR., 152 Second St., New York City.....	1898
VOELKER, CHARLES A., Adamsford, Del. Co., Pa.....	1897
WALCOTT, ROBERT, 11 Waterhouse St., Cambridge, Mass.....	1893
WALES, EDWARD H., Hyde Park, N. Y.....	1896
WALKER, DR. R. L., 94 Main St., Carnegie, Pa.....	1888
WARREN, DR. B. H., Box 245, Westchester, Pa.....	1885
WATERMAN, WILLIAM, Bigelow, Minn.....	1896
WATERS, EDWARD STANLEY, Water Power Co., Holyoke, Mass.....	1894
WATSON, MISS SARAH R., 5128 Wayne St., Germantown, Phil., Pa.....	1900
WATTERS, ROBINSON CATOR, 9 W. Baltimore St., Baltimore, Md.....	1900
WEBSTER, MRS. ELLEN EMELINE, Franklin Falls, N. H.....	1898
WEBSTER, MRS. MARY P., 1025 5th St., S. E. Minneapolis, Minn.....	1900
WEIR, J. ALDEN, 11 E. 12th St., New York City.....	1899
WENTWORTH, IRVING H., Apartado 104, Matehuala E. de S. L. P., Mexico.....	1900
WEST, LEWIS H., Roslyn, Nassau Co., N. Y.....	1887
WHEELER, EDMUND JACOB, 95 Jefferson Av., New London, Conn.....	1898
WHEELER, JOHN B., East Templeton, Mass.....	1897
WHITAKER, WILLIAM LINCOLN, Cedar Grove, Philadelphia, Pa.....	1894
WHITE, FRANCIS BEACH, 6 Phillips Place, Cambridge, Mass.....	1891
WHITMAN, PROF. CHARLES OTIS, Univ. of Chi., Chicago, Ills.....	1896
WICKS, M. L., JR., 221 W. 2d St., Los Angeles, Cal.....	1890
WILBUR, ADDISON P., 4 Gibson St., Canandaigua, N. Y.....	1895
WILCOX, T. FERDINAND, 115 W. 75th St., New York City.....	1895
WILDE, MARK L. C., 19 W. Chestnut Av., Merchantville, N. J.....	1893
WILLIAMS, J. BICKERTON, 15 Wellington St. E., Toronto, Can.....	1889
WILLIAMS, ROBERT STATHAM, Botanical Garden, New York City.....	1888

*Deceased Members.*

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WILLIAMS, ROBERT WHITE, Tallahassee, Fla.....	1900
WILLIAMS, W. J. B., Holland Patent, N. Y.....	1893
WILLIAMSON, E. B., Bluffton, Ind.....	1900
WILSON, KARL DENE, Industry, Pa.....	1899
WILSON, SIDNEY S., 1021 Sylvania St., St. Joseph, Mo.....	1895
WINKENWERDER, HUGO AUGUST, 217 Murray St., Madison, Wis.....	1900
WINSLOW, Miss SOPHY, Shore Road and 88th St., Bay Ridge, Brooklyn, N. Y.....	1899
WOLFE, WILLIAM EDWARD, Florence, Colo.....	1900
WOOD, NELSON R., Smithsonian Institution, Washington, D. C.....	1895
WOODRUFF, EDWARD SEYMOUR, 14 E. 68th St., New York City.....	1899
WOODRUFF, LEWIS B., 14 E. 68th St., New York City.....	1886
WOODWORTH, Mrs. NELLY HART, 41 Bank St., St. Albans, Vt.....	1894
WORCESTER, Prof. DEAN C., U. S. Philippine Comm., Manila, P. I.....	1895
WORTHEN, CHARLES K., Warsaw, Ill.....	1891
WORTHINGTON, WILLIS W., Shelter Island, Suffolk Co., N. Y.....	1889
WRIGHT, FRANK S., 51 Genesee St., Auburn, N. Y.....	1894
WRIGHT, Mrs. MABEL OSGOOD, Fairfield, Conn.....	1895
WRIGHT, Miss NORA GIRALDA, 387 Plainfield St., Olneyville, R. I.....	1896
WRIGHT, SAMUEL, Conshohocken, Pa.....	1895
YORKE, Dr. F. HENRY, Foosland, Ill.....	1891
YOUNG, CURTIS CLAY, 81 So. Hamilton St., Poughkeepsie, N. Y.....	1891

DECEASED MEMBERS.

ACTIVE MEMBERS.

*Date of Death*

BAIRD, SPENCER FULLERTON.....	Aug. 19, 1887
BENDIRE, CHARLES E.....	Feb. 4, 1897
COUES, ELLIOTT.....	Dec. 25, 1899
GOSS, N. S.....	March 10, 1891
HOLDER, JOSEPH B.....	Feb. 28, 1888
JEFFRIES, JOHN AMORY.....	March 26, 1892
SENNETT, GEORGE BURRITT.....	March 18, 1900
WHEATON, JOHN M.....	Jan. 28, 1887

HONORARY MEMBERS.

BURMEISTER, HERMANN.....	May 1, 1892
GÄTKE, HEINRICH.....	Jan. 1, 1897
GUNDLACH, JUAN.....	March 14, 1896
GURNEY, JOHN HENRY.....	April 20, 1890



HUXLEY, THOMAS H.....	June 29, 1895
KRAUS, FERDINAND.....	Sept. 15, 1890
LAWRENCE, GEORGE N.....	Jan. 17, 1895
MILNE-EDWARDS, ALPHONSE.....	April 21, 1900
PARKER, WILLIAM KITCHEN.....	July 3, 1890
PELZELN, AUGUST VON.....	Sept. 2, 1891
SALVIN, OSBERT.....	June 1, 1898
SCHLEGEL, HERMANN.....	Jan. 17, 1884
SEEBOHM, HENRY.....	Nov. 26, 1895
TACZANOWSKI, LADISLAS.....	Jan. 17, 1890

## CORRESPONDING MEMBERS.

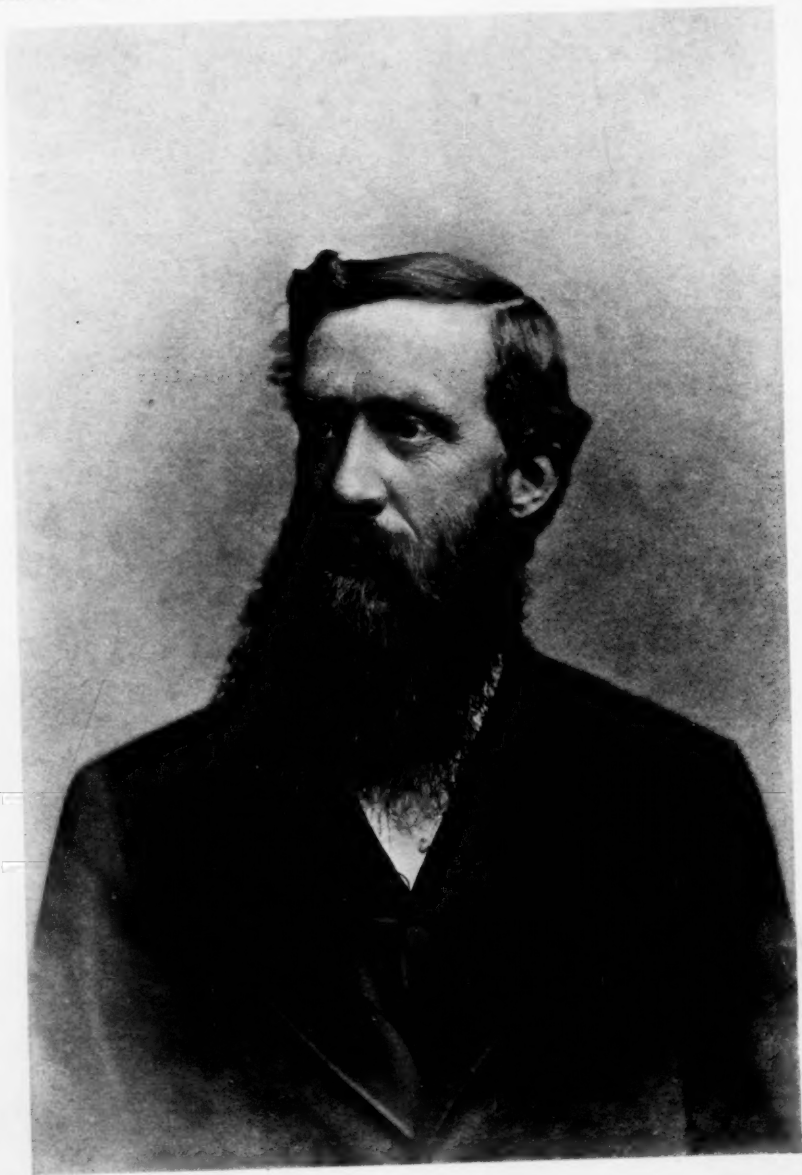
BALDAMUS, EDUARD.....	Oct. 30, 1893
BLAKISTON, THOMAS W.....	Oct. 15, 1891
BOGDANOW, MODEST N.....	March 4, 1888
CORDEAUX, JOHN.....	Aug. 1, 1899
HAAST, JULIUS VON.....	Aug. 15, 1887
HARGITT, EDWARD.....	March 19, 1895
HOMER, E. F. VON.....	May 31, 1889
LAYARD, EDGAR LEOPOLD.....	Jan. 1, 1900
LYTTLETON, THOMAS, LORD LILFORD.....	June 17, 1896
MARSHALL, A. F.....	Oct. 11, 1887
MALMGREN, ANDERS JOHAN.....	April 12, 1897
MIDDENDORFF, ALEXANDER THEODOR VON.....	Jan. 28, 1894
MOSJISOVICS, F. G. HERMANN AUGUST.....	Aug. 27, 1897
PREJEVALSKI, N. M.....	Oct. 20, 1887
PRENTISS, D. WEBSTER.....	Nov. 19, 1899
PRYER, HARRY JAMES STOVIN.....	Feb. 17, 1888
SCHRENCK, LEOPOLD VON.....	Jan. 20, 1894
SÉLEYS-LONGSCHAMPS, EDMOND DE.....	Dec. 11, 1900
SEVERTZOW, N.....	Feb. 8, 1885
STEVENSON, HENRY.....	Aug. 18, 1888
WHARTON, HENRY T.....	Sept. —, 1895

## ASSOCIATE MEMBERS.

ADAMS, CHARLES F.....	May 20, 1893
ALLEN, CHARLES SLOVER.....	Oct. 15, 1893
ATKINS, H. A.....	May 19, 1885
AVERY, WILLIAM CUSHMAN.....	March 11, 1894
BAUR, GEORGE.....	June 25, 1898
BECKHAM, CHARLES WICKLIFFE.....	June 8, 1888
BILL, CHARLES.....	April —, 1897
BIRTWELL, FRANCIS JOSEPH.....	June 29, 1901
BOARDMAN, GEORGE A.....	Jan. 11, 1901



BOLLES, FRANK.....	Jan. 10, 1894
BRACKETT, FOSTER H.....	Jan. 5, 1900
BREESE, WILLIAM L.....	Dec. 7, 1889
BROKAW, L. W.....	Sept. 3, 1897
BROWN, JOHN CLIFFORD.....	Jan. 16, 1901
BROWNE, FRANCIS CHARLES.....	Jan. 9, 1900
CAIRNS, JOHN S.....	June 10, 1895
CAMPBELL, ROBERT ARGYLL.....	April —, 1897
CARTER, EDWIN.....	
COLBURN, W. W.....	Oct. 17, 1899
CORNING, ERASTUS, JR.....	April 9, 1893
COE, W. W.....	April 26, 1885
DAKIN, JOHN A.....	Feb. 21, 1900
ELLIOTT, S. LOWELL.....	Feb. 11, 1889
FAIRBANKS, FRANKLIN.....	April 24, 1895
FOWLER, J. L.....	July 11, 1899
GESNER, A. H.....	April 30, 1895
GOSS, BENJAMIN F.....	July 6, 1893
HATCH, JESSE MAURICE.....	May 1, 1898
HOADLEY, FREDERIC H.....	Feb. 26, 1895
HOWLAND, JOHN SNOWDON.....	Sept. 19, 1885
INGERSOLL, JOSEPH CARLETON.....	Oct. 2, 1898
JENKS, JOHN W. P.....	Sept. 27, 1894
JOUY, PIERRE LOUIS.....	March 22, 1894
KUMLIEN, THURE.....	Aug. 5, 1888
LAWRENCE, ROBERT HOE.....	April 27, 1897
LINDEN, CHARLES.....	Feb. 3, 1888
MABBETT, GIDEON.....	Aug. 15, 1900
MARCY, OLIVER.....	March 19, 1899
MARIS, WILLARD LORRAINE.....	Dec. 11, 1895
McKINLAY, JAMES.....	Nov. 1, 1899
MINOT, HENRY DAVIS.....	Nov. 13, 1890
NICHOLS, HOWARD GARDNER.....	June 23, 1896
NORTHROP, JOHN I.....	June 26, 1891
PARK, AUSTIN F.....	Sept. 22, 1893
RAGSDALE, GEO. H.....	March 25, 1895
RICHARDSON, JENNESS.....	June 24, 1893
SELOUS, PERCY SHERBORN.....	April 7, 1900
SLATER, JAMES H.....	Feb. —, 1895
SMALL, EDGAR A.....	April 24, 1884
SMITH, CLARENCE ALBERT.....	May 6, 1896
STOWE, W. H.....	March —, 1895
THORNE, PLATTE M.....	March 16, 1897
THURBER, E. C.....	Sept. 6, 1896
VENNOR, HENRY G.....	June 8, 1884
WILLARD, SAMUEL WELLS.....	May 24, 1887
WOOD, WILLIAM.....	Aug. 9, 1885



Sincerely yours,  
Allen Coates.

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IN MEMORIAM: ELLIOTT COUES.<sup>1</sup>

BORN 9th SEPT. 1842.—DIED 25th DEC. 1899.

BY D. G. ELLIOT, F. R. S. E., ETC.

IN THE life of every nation, society or individual, no matter how peaceful, prosperous or happy the record of the past may have been, no matter how encouraging and bright the future may be for further advancement, increased progress and greater achievements in the path that always leads onward and upward, toward the ultimate fulfillment of the highest destiny that may be attained, in the varying shifting career that all must follow while accomplishing the pilgrimage of earth, yet in the experience of all even amidst the rush of a restless activity, there comes a time to mourn. A time when the daily duties are temporarily neglected or wholly laid aside, when the engrossing pursuits that occupy the thoughts and call for the utmost energies of man's nature cease for the moment to interest the mind, when the smile vanishes and joyous laughter no longer cheers the heart, when the voice sinks to a whisper low and soft, as the sense of some irreparable loss comes with stunning force to overwhelm the soul. To this Society, to all its individual members, and to some of us

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<sup>1</sup> An address delivered at the Eighteenth Congress of the American Ornithologists' Union, Cambridge, Mass., Nov. 13, 1900.

in a peculiar and intimate relationship such a time has surely come, for as we are gathered here to-day, one engaging presence, one vitalizing force, one attractive personality, one brilliant mind is no longer in our midst, to grace, strengthen and assist us in our deliberations, and in the accomplishment of duties that must be met. Who shall measure the extent of the loss sustained by various branches of scientific and historical research, by this and kindred societies, by those of us who have parted from an intimate friend and colleague of many vanished years, as well as the younger men just entering upon the scientific field, in the recent death of our former President and late colleague, Elliott Coues. No one occupied a more prominent position in our midst than he and no one held it by a stronger claim founded on exceptional ability, in brilliant work successfully accomplished.

On September 9th, 1842, in the town of Portsmouth, New Hampshire, Elliott Coues was born, and as soon as he could exhibit a preference for any object, his taste for ornithology was manifested, and even when only able to toddle about the nursery, a poster of one of the old style menageries rendered him oblivious to all other attractions and no book nor story interested him unless animals were their subjects. So early did the tastes and preferences that were to be the chief controlling influences of his life declare themselves. When he was eleven years of age his father, Samuel Elliott Coues, removed to Washington, in which city our late colleague was destined to pass a large part of his life, and where some of his most important works were to be written. For a time he attended Gonzaga College, a Jesuit Institution, and where, to one of his ardent temperament, the gorgeous ritual of the Romish church would be apt to make a deep impression, but his was to be an energetic life that demanded a wide field for its activity, and could not be pent amid cloistered shades or cathedral aisles. In his early days he was rather inclined to neglect the classics, replying once to a remonstrance of his father, "I only want just enough of these things to facilitate my other work," but later he appreciated the importance of a thorough knowledge of the ancient tongues and they had no more earnest advocate than himself. At the age of seventeen he entered Columbia College, now Columbian University, took his degree of

A. B. in 1861, Honorary M. A. in 1862, became a Medical Cadet in 1862, M. D. in 1863 and Acting Assistant Surgeon, United States Army, in the same year and Assistant Surgeon in 1864. When he passed his examination for the United States Army medical corps he was obliged to tell them he was not of age, and he was appointed a volunteer surgeon for one year before he could receive his commission and that year he passed at Mount Pleasant Hospital near Washington. For seventeen years he continued in the service of the United States and was made a brevet Captain, resigning in 1881 in order to devote himself entirely to his scientific and literary pursuits.

During his army life he was stationed at various posts, mostly those situated in the western part of the United States, and he was also attached to some of the most important Government Surveys of the Territories and little known parts of our country, such as the one under the command of Dr. F. V. Hayden, and that of the Northern Boundary Commission which surveyed the forty-ninth parallel westward from the Lake of the Woods. In these great expeditions he served as surgeon and naturalist, and gained in the field that intimate knowledge of our birds and mammals which was to make him in the near future one of the most illustrious naturalists of our country and of our time. He had now become so absorbed in his scientific pursuits that the monotonous routine of an army post was most distasteful, and when he was detached from the surveying expeditions and ordered back to his first station at Fort Whipple, Arizona, he endeavored to obtain a different assignment, one more congenial to him and better adapted for his scientific work, and when this proved impossible he resigned from the army and took up his abode in Washington, where he resided until his death.

Although he was a writer on many and various subjects, his first scientific work was done in ornithology, and as early as 1861, when he was but nineteen years of age, he made his debut as an author in a well-conceived and executed paper, that would have been highly creditable to a far more experienced hand, entitled 'A Monograph of the *Tringæ* of North America.' In his scientific studies Coues was fortunate in having for his mentor the late Professor Baird and between them the strongest



friendship existed and which only terminated with the death of the senior naturalist. From this period Coues's contributions to literary, scientific and philosophic subjects never ceased, for his energies were unlimited and he became one of the most prolific writers of our day. In 1869 he was elected Professor of Zoölogy and Comparative Anatomy in Norwich University, Vermont, but the duties of army life prevented him from accepting this position, but after he retired from the service of the United States he accepted the chair of anatomy at the National Medical College in the medical department of Columbian University, Washington, where he lectured acceptably for ten years. He was also one of the contributors to the Century Dictionary, and had editorial charge of General Zoölogy, Biology and Comparative Anatomy, and furnished some 40,000 words to this monumental work as his share of the enterprise; devoting to it the greater part of his labor for seven years. Another immense undertaking to which he devoted some years of painstaking work was a 'Bibliography of Ornithology,' certain instalments of which alone have been published, the greater portion still remaining in manuscript. He also began a 'History of North American Mammals,' but though considerable progress with it was accomplished nothing was ever published.

From 1861 to 1881 he completed 300 works and papers, the major portion devoted to ornithology; and although he always kept up his interest in that science and was more or less an active contributor to it all his life, his later years were more particularly devoted to historical research. The titles to his scientific writings of all kinds, minor papers, reviews and special works, number nearly 1,000, and he was the author or joint author of 37 separate volumes. The work by which he will probably be best known and remembered, and which has had above all others the most important influence on ornithology in our own land, is his 'Key to North American Birds,' a work that in its conception and the masterly manner in which it is carried out in all its details stands as one of the best if not *the* best bird book ever written. His knowledge of North American mammals was as extensive and intimate as was that of our birds, and the 'Fur Bearing Animals,' published in 1877, as well as the Monographs on the Muridæ,

Zapodidæ, Saccomyidæ, Haplodontia and Geomyidæ in the 'North American Rodentia,' also issued in 1877, bear ample witness to this fact. It is impossible, however, in a comparatively brief address to enumerate the titles of his works and to this audience they would seem like twice told tales, for with the more important you are thoroughly familiar, and the minor ones are being constantly met with and referred to by you in the pursuit of your investigations.

We know what he has done in Natural Sciences, and although he rests from his labors, and the eloquent tongue is silent and the still more eloquent pen lies motionless never more to perpetuate the virile thoughts that struggled for expression in the active mind, yet his works remain and speak with no uncertain tones for him. I would, however, pass from the consideration of him as an author and facile writer, and present him to you as the man, as he really was, for although many persons were acquainted with Coues few I believe really knew him. It is now nearly forty years ago, when on a visit to Professor Baird in Washington, one evening, in company with my old friend Dr. Gill, I first met Elliott Coues. He was then in his teens, a student of medicine, frank, simple, honest and confiding, with a boy's generous impulses, and the glorious enthusiasm of the ornithologist manifest in speech and action. The friendship then formed continued without a break or a hasty word ever having been exchanged with tongue or pen throughout all the intervening years. And yet we thought very differently on many subjects; but such was our confidence in each other's honest intention and unreserved frankness that we could, and did many times, argue on different sides, both orally and in writing, with an energetic earnestness that would have been highly dangerous to our continued friendship if we had not understood each other so well. And first among his most eminent characteristics was his love of truth, and he was constantly striving with all the force of his energetic nature to search it out and take its teaching to himself wherever he might find it, careless where it might lead him or what preconceived views or opinions it might overthrow or destroy. He believed with Carlyle that "there is no reliance for this world or any other but just the truth, there is no hope for the world but just so far as men find

out and believe the truth and match their own lives to it." It was therefore in his search for truth and an attempt to apply the principles of physical science to psychical research that in 1880 he became affiliated with the Theosophical Society of India and was elected President of its American Board of Control, and was continued in that office for several years. He was much interested in the subject and investigated its principles and methods with his usual thoroughness, even visiting Europe in company with Madame Blavatsky and other prominent members of the sect, and his connection with this and kindred societies resulted in the production of several publications such as 'Biogen' and the 'Dæmon of Darwin.' But the knowledge that he gained of this interesting but peculiar doctrine was not of that satisfying character as to cause him to hold fast to its tenets, nor to enable him to retain his respect for its leaders, and although he gives no reasons for the action, yet in the memorandum in which he records his election as President in 1885 and his reelection in the following year, with characteristic frankness he states that he was expelled from the Society in 1889. Those of us who have little sympathy with the claims asserted by the disciples of Theosophy can not but regard his expulsion from the Society as having conferred a greater honor upon him than his election to the Presidency, and can easily imagine the action he may have taken in the Council to cause such a result after he finally satisfied himself that the doctrine could not substantiate its claims. He detested shams of all kinds and hurled the full force of his invective against those who had proved themselves unworthy or who strove to appear entitled to more than was their due.

As a critic in certain lines he was unrivaled and exhibited the highest practice of the art in his reviews, dwelling most upon what was meritorious in the treatment of the subject before him, for he believed true criticism was to seek that which was praiseworthy rather than something to condemn. But no one could be more caustic in his treatment, nor wield a sharper weapon, when he found that praise would be misapplied and it would be kinder to act as the skillful surgeon does, create wounds in order that the patient's recovery might be more sure and lasting. Rarely, however, for one who published so much, was he severe in his

writings, though none had the power to be more so, but when from whatever the cause that influenced him he permitted himself to indulge in phrases that would be remembered and might possibly leave a sting, he set down 'naught in malice,' but employed a phraseology that he honestly believed was best suited to the case in hand, and after some such severe articles had been issued, he has spoken to me in the kindest way of the author of the work or act he had so criticised or condemned, apparently entirely unconscious that it could possibly affect any friendly relations or be the means of any estrangement. It was the sentiment advanced, or the conclusion reached, that was the object of his attack, not the individual who was the author. In all his critical reviews there is no thought of self, but only desire to do justice to his subject and to its author, and if anything could be charged against him on this point, it was an evident inclination always to find something to praise.

In his scientific writings he was always extremely lucid, and conservative in his methods, and he had but little sympathy for the hair splitting and microscopic variations in the appearance of animals, that is the joy and delight of some naturalists in these later days. He was a scholar and knew his Greek and Latin, and with a scholar's instinct and abhorrence of incorrect phraseology, he strove with all his might to inculcate not only in his own scientific writings, but in those of others the true principles of etymology and philology, and both by tongue and pen, in the keen analytical style of which he was an undisputed master, he strove with all the force of his energetic personality against the unfortunate and mistaken doctrine that the perpetuation of errors can ever be permissible, much less commendable. He possessed a command of language gained by few and the beauty of his style and his felicity of expression has created numerous pen pictures of the habits and appearances of our wild creatures that have never been excelled by any writer, if indeed they have been equalled.

While a keen and just critic himself, he was very sensitive regarding the opinion of others towards his own productions, and sought the approbation of those who were bound closely to him either by earthly ties or an intimate friendship, or whose knowledge

of the subject under consideration caused their opinion to be of special value. This extreme sensitiveness is best illustrated by an act committed in his youthful days, when after having labored for several years upon a work on Arizona, on reading his manuscript to one, who, if not competent to judge of the importance of his labors, he had the right to expect would exhibit sympathy for his efforts, and who must at least have been impressed with its thoroughness and beauty of diction, yet, was only able to consider its value as a commercial asset and therefore commented upon it so unfavorably and with such strength of expression, that, utterly disheartened at the want of appreciation for that which had been so long a labor of love and of which he was so proud of his ability to produce, on the impulse of the moment he cast the 'copy' into the fire where it was consumed, and then suffered a severe attack of illness in consequence of his loss by his hasty act.

Of a most affectionate disposition he sought and enjoyed the society of his friends and those with sympathetic tastes, and although he possessed strong convictions and firm opinions, yet no one more readily yielded to the views of another whose opportunities to reach a correct decision had been greater than his own, and this was always effected with a courtesy that caused his friendly opponent to regret he could not himself yield and reverse their positions. He loved science and scientific work and scorned to employ his talents and his knowledge merely for financial considerations, and although he could command large sums for his labor, he preferred to devote himself to pure science which, if less remunerative pecuniarily, achieves a more lasting result, and one of greater honor.

After all these years of scientific work his thoughts and labors turned to a new channel, that of historical research, and the last eight or ten years of his life were devoted to editing the journals of the early explorers of our continent, and he made many long and wearisome journeys over the various routes taken by these hardy pioneers in order to familiarize himself with the country traversed and locate the many places mentioned, but which had no designation on any published map. His former army life and his great experience as a naturalist eminently fitted him for this task, and probably no one could have proved himself so compe-



tent to fulfill this duty. The first of these works was that of the Expedition of Lewis and Clarke which appeared in 1893, followed in 1895 by the Expedition of Zebulon M. Pike. In 1897 came the Henry & Thompson Journals, in 1898 appeared the Fowler Journal and the Narrative of Charles Larpentuer, forty years a Fur Trader on the Upper Missouri; and during this year The Diary of Francisco Garces, on the trail of a Spanish Pioneer, in all 15 volumes. All of these books bear the impress of his most conscientious care and wonderful minuteness of annotation, and it is to Coues more than to any other, that the original sources of the early explorations of the western portion of our country, beyond the Mississippi, are preserved.

It was during an arduous journey in New Mexico and Arizona in the summer of 1899, undertaken, as he wrote me, as a "still hunt for old Spanish MSS." and to refresh his memory of the country described by Francisco Garces, and render still more effective his editing of the Diary in his possession that Coues's splendid physique and robust health that for so long seemed to defy fatigue and exposure gave way, and he was brought to Santa Fé in a rather critical condition, where for a month he was very ill, but in September he came to Chicago. He seemed to be getting better and at my last interview with him, during which his condition was freely discussed, although he fully appreciated the gravity of his case, yet he expressed the hope, and perhaps he thought it was clearly among the possibilities, that he might be present at the last meeting of this Society in Philadelphia. Regarding him, as I then did, as in a critical condition I could not share this hope, although I encouraged him in his belief, or what seemed to be his belief, for Coues had been too long a skilled medical practitioner to try and deceive himself, but from his references to his attendant physician it was clearly apparent that he preferred to advance the opinion of his medical adviser, of whom he spoke in the highest terms, rather than any of his own. He was greatly changed in appearance, but the old fire and enthusiasm, that I had so often admired and not infrequently contended with in friendly conflict during so many years, was not a whit abated, and he spoke with all his old time interest of the work he had himself in view and of that of others. But the voice was feeble

and the frame was weak, and he was filled with a restlessness that was foreign to him. But when I bade him an adieu, which was to be our last on earth, he was cheerful and spoke hopefully of meeting soon again. As you all know, his condition became more serious after he arrived at his home in Washington and an expert examination at Johns Hopkins Hospital in Baltimore gave but little hope for the preservation of his life. During these last days I received a number of letters from him explaining frankly his condition and how few were his chances for life, and just before submitting to the operation came one virtually bidding me farewell and announcing the close of our correspondence that had extended over many years. On the sixth of December the operation was performed and for a short time there was a probability that his life would be prolonged, but it was not to be, for he had finished his work and he was to rest from his labors. Throughout his illness he exhibited the natural bravery of spirit habitual to him; not a murmur or complaint of the excessive and lasting pain, but gentle and courteously appreciative of every attention, and at the last overcoming for an instant the weakness that denoted the approach of that moment when his freed spirit should depart and soar above all earthly things, he raised himself in his bed, and with all the old time vigor of voice exclaimed, "Welcome! oh, welcome beloved death," and sinking backwards on the pillow he was at rest. Nevermore shall you welcome to your midst this courteous gentleman, who was the considerate friend, the able counsellor, the chivalrous debater, the one most capable of leadership, yet always willing to yield to another, the trained scientist, the accomplished anatomist, the able naturalist, the conscientious historian. His was a life of intense activity and that which his hand found to do he did with all his might; and of none can it be more appropriately said, "*Nihil tetigit quod non ornavit.*"

Coues, as may be readily supposed, was the recipient of many scientific honors, and he was an Honorary or Active member of a very large number of societies, both in this country and in Europe, and at the time of his election to our National Academy he was, I believe, its youngest member. The list of scientific societies with which he was connected numbers between fifty and

sixty, far too many for me to attempt to give their titles at this time, yet none of them was so distinguished but that it received as well as conferred an honor by having his name upon its rolls. As a naturalist Coues will always hold the highest rank in the estimation of all who are familiar with his works, and in that galaxy of eminent names which sheds so great a brilliancy on the scientific annals of our own land, none shall appear in the years to come more lustrous than that of our late distinguished colleague and friend. But the brilliant mind no longer teems with thoughts of earth, and the hand that executed its commands lies motionless and we, who are drawing near to that shining portal through which he has so lately passed, and from whose farther side no steps are ever retraced by any one of mortal birth, may never look upon his like again, whose pen was the 'pen of a ready writer,' fit instrument to convey and render permanent the eloquence of thought, beauty of diction, and facility of expression, of Nature's illustrious Disciple and Interpreter.

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IN MEMORIAM: GEORGE BURRITT SENNETT.<sup>1</sup>

BORN JULY 28, 1840,—DIED, MARCH 18, 1900.

BY J. A. ALLEN.

SINCE our last meeting the American Ornithologists' Union has lost two of its Active Members, Elliott Coues and George B. Sennett. Dr. Coues's eminent services to science and literature have been ably commemorated in the memorial address by my esteemed friend and colleague, Mr. Elliot.

Dr. Coues, by education and through favoring circumstances, was a trained naturalist, endowed with mental gifts that enabled him to take the fullest advantage of the opportunities for research

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<sup>1</sup> Read at the Eighteenth Congress of the American Ornithologists' Union, Cambridge, Mass., Nov. 13, 1900.

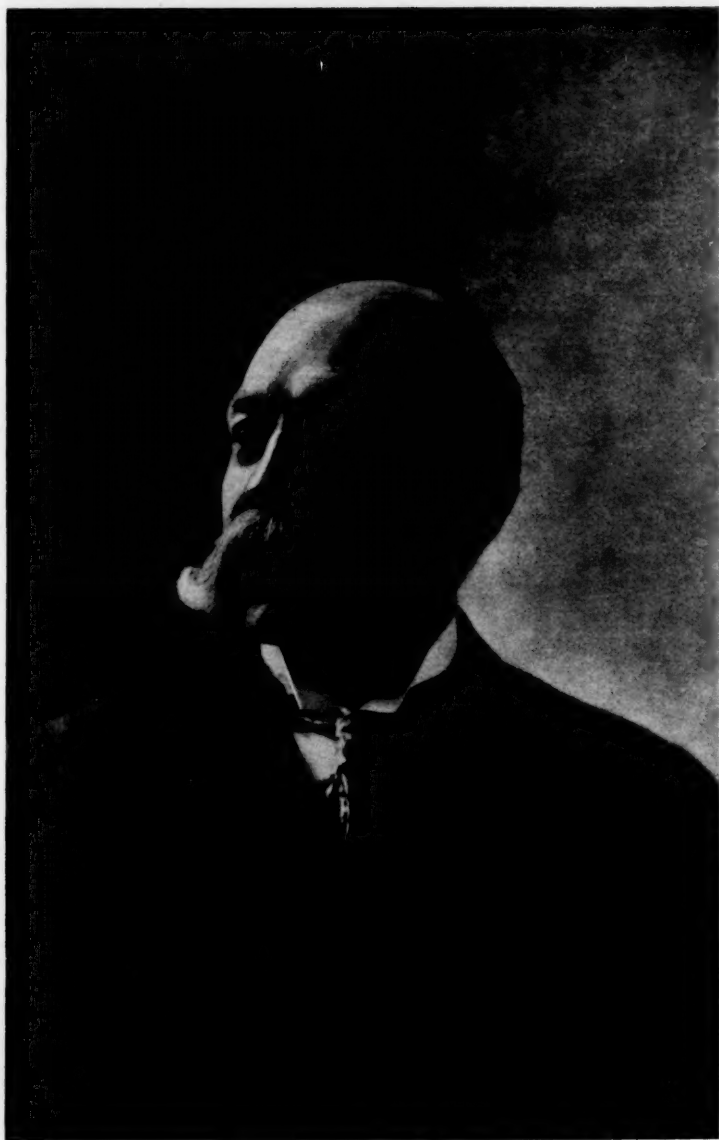
that fell to his lot, and thus to leave an indelible impress upon the history of the science to which he was primarily devoted.

Mr. Sennett was a man of marked business ability, and the manufacturing interests in which he was engaged left him through most of his life, little opportunity for scientific research; but he, too, impelled by the instincts of a true naturalist, has left his mark upon the progress of American ornithology, and has contributed not a little in the way of 'bricks and straw' to the construction of that edifice, for the perfection of which we are all lending our efforts, each in proportion to his opportunities and endowments.

George Burritt Sennett was born in Sinclairville, Chautauqua County, New York, July 28, 1840, and died at Youngstown, Ohio, March 18, 1900. He passed most of his life, however, in Erie and Crawford Counties, Pennsylvania. His ancestry on his father's side was Scotch and on his mother's side, English. He was the only child of Pardon Sennett, a successful business man, and a pioneer in the iron interests of western Pennsylvania, he at one time owning and operating three blast furnaces — at Erie, Mercer and Middlesex, Pennsylvania.

George B. Sennett was graduated from the Erie Academy, and later passed four years at a preparatory school in Delaware County, New York, where he fitted for Yale College. After creditably passing his entrance examination, however, the partial failure of his eyes, and the opportunity for travel abroad offered him by his father, led him to abandon his college course for a sojourn of four years in Europe. He traveled through Austria, Bavaria and Germany, residing for a considerable time in Vienna and Nuremberg, where he studied the German language; he also spent a year in Paris, there, under a special instructor, acquiring a fair knowledge of French. In later years he always referred with satisfaction to this long sojourn abroad, the information and experience thus gained proving valuable to him in his subsequent business career.

Soon after his return to this country, in 1865, he began the manufacture of oil-well machinery at Meadville, Pennsylvania, including, later, a new type of engine of his own invention. In 1896 he moved his extensive works to Youngstown, Ohio, and



Yours very truly  
Geo. C. Smith





shortly before his death had reorganized his business as a stock company, of which he was the president and manager. In this way he hoped to become later so far relieved from business details that a large part of his time could be devoted to his old love, the pursuit of ornithology.

Mr. Sennett appears to have begun to take an active interest in the scientific study of birds about 1873 or 1874. This is attested by numerous specimens in his collection collected by himself at Erie, Pennsylvania, during this latter year. According to information kindly furnished me by Mr. Chapman, Mr. Sennett attributed the special awakening of his interest in birds to Dr. Coues's 'Field Ornithology,' which was published in 1874, a copy of which he bought as soon as he became aware of its appearance. This naturally led to correspondence with Dr. Coues, and later to their personal acquaintance and to the close relationship disclosed in Dr. Coues's editorial supervision of Mr. Sennett's papers on Texan ornithology, published in 1878 and 1879.

Mr. Sennett's first ornithological expedition was made in the spring of 1876, when he visited western Minnesota for the special purpose of ornithological investigation. The trip was very successful, as shown by the large series of specimens, especially of water birds, taken on this trip and still in his collection. He appears, however, never to have published anything relating especially to this season's work.

His second expedition was to the Lower Rio Grande region of Texas. As this later became his chosen field, the following transcript from his paper giving the ornithological results of his first trip to this region will be of interest. Under date of Erie, Pa., December 1, 1877, he writes, in his letter of transmittal, as follows: "Last winter, having inclination and leisure to prosecute the study of birds in a more extended field than was open to me at home, I began to look about for a suitable locality. As is always the case when real desire for study arises, avenues of investigation opened in all directions; but the weight of influence drew me to the Rio Grande. Arranging with Mr. F. S. Webster, of Troy, N. Y., to go as my assistant, and securing a complete outfit, I set out for Texas on February 23d of the present year. My plan was to work down the lower coast of Texas, and arrive

at Brownsville, as a base of future operations, before the breeding season had fairly commenced. On the evening of the 20th of March, after many vexatious delays, we arrived at Brownsville, our objective point. The country worked over lay between Point Isabel, on the coast, near the mouth of the Rio Grande, and a point a few miles above Hidalgo, embracing a distance of a hundred miles by road or three hundred miles by river. We were exactly two months on the southern border. Much valuable time was lost in going up and down the river, in procuring means of conveyance, and in acquainting ourselves with the country. The annoyances also were not few. On some days the weather was so intensely hot that birds were apt to spoil before we could prepare them . . . .

"The result of the trip was the securing of some five hundred birds, three of which are new to our fauna and one new to science; about a thousand eggs, many of which are new or rare; a few mammals, nearly all of which proved interesting; a number of alcoholic preparations of birds, mammals, and reptiles; and quite a collection of insects, principally Lepidoptera."

His report on this expedition forms a paper of 66 pages and is entitled, 'Notes on the Ornithology of the Lower Rio Grande of Texas, from observations made during the season of 1877 . . . . Edited, with Annotations, by Dr. Elliott Coues, U. S. A.' It was published in February, 1878, in Volume IV, of the 'Bulletin' of the United States Geological and Geographical Survey of the Territories (Hayden). It consists of an annotated list of 150 species, in some instances the annotations amounting to very full biographies of a number of species previously little known. The new species referred to is the *Parula nigrilora*; and the species added to the United States fauna are: (1) *Myiarchus crinitus erythrocerus*, now known as *Myiarchus mexicanus* (Kaup), previously taken, however, but not then recorded, by Dr. J. C. Merrill; (2) *Glaucidium ferrugineum*, now known as *Glaucidium phalenoides*; and (3) *Æchmoptila* (Coues, n. g.) *albifrons*, now *Leptotila albifrons*, first recorded by Coues in July, 1877, on the basis of a specimen taken by Mr. Sennett at Hidalgo, in May, 1877. Several other species of Mr. Sennett's list had been made known as birds of the United States only the previous year through Dr. J. C. Merrill's work at Brownsville.

In the spring of the following year Mr. Sennett made a second trip to practically the same region, covering the months of March, April and May, 1878, although only about two months were spent in actual field work in Texas. He had as his assistant on this expedition Mr. J. H. Sanford of Grant County, Minnesota. The ornithological results of this trip were published in November, 1879, in Volume V of the same journal (pp. 371-440), forming a paper of 70 pages, entitled 'Further Notes on the Ornithology of the Lower Rio Grande of Texas, from observations made during the Spring of 1878,' edited and technically annotated by Dr. Coues. This list includes 168 species, adding 43 to his first list, and making a total of 193 species for the two expeditions, the result of about four months work in the field. About the same number of birds and eggs were obtained as on the first trip, with, in addition, a similar miscellaneous collection of mammals, reptiles, fishes and insects. The following five species of birds were added to the United States fauna, namely, (1) *Ornithion imberbe*, (2) *Pitangus derbianus*, (3) *Crotophaga sulcirostris*, (4) *Buteo albicaudatus* (now *Buteo albicaudatus sennetti*), and (5) *Scops asio enano* (now *Megascops asio trichopsis*). While edited, as was the former paper, by Dr. Coues, Mr. Sennett himself furnished most of the technical notes, Dr. Coues supplying only those relating to questions or nomenclature and synonymy. That he already had an excellent grasp of the technicalities and generalities of the subject is evident from his treatment of such species as *Lophophanes atricristatus*, *Auriparus flaviceps*, *Spermophila moreleti*, and especially of *Myiarchus crinitus erythrocerus*, *Crotophaga sulcirostris*, and *Meleagris gallopavo*. Under the latter, in discussing the Rio Grande form of the Wild Turkey, he suggests that "a var. *intermedia*" may have to be recognized, and in other cases foreshadowed, as under *Spermophila moreleti*, changes in nomenclature and the status of forms that have since been established.

Mr. Sennett's first paper on the birds of the Lower Rio Grande region showed him to be a field observer of unusual intelligence, and fully alert to every point of interest that came within his range of observation; while in the second paper he gave evidence of the expertness in discrimination and soundness of judgment so manifest in his later technical papers.

In 1882 Mr. Sennett made a third visit to Texas, arriving at Corpus Christi April 21, and continuing his work along the coast, chiefly in Nueces Bay, till May 12. He met there Captain B. F. Goss, of Milwaukee, Wisconsin, and had as his assistant on this trip Mr. J. M. Priour, who remained for some years in his employ as a collector in Texas and northeastern Mexico. Special attention was given on this trip to the water birds found breeding on the coast of Texas; and although his work was very successful, resulting in large collections of birds and birds' eggs, and a well-filled notebook, he never published anything relating to it.

Although this was his last visit to Texas, he did not relinquish this interesting field, continuing his work there through collectors employed by him to complete his Texas collections, he having early formed the plan of making Texas his special field, and of eventually publishing a work on the ornithology of the lower Rio Grande region of Texas and Mexico. In pursuance of this plan he enlisted the services of Mr. William Lloyd, who collected extensively for him in western Texas, in 1887. In this same year he sent Mr. J. M. Priour to the region of the lower Brazos River, and later to explore the coast region, or Tamaulipan district, of northeastern Mexico. Mr. Priour made a wagon trip from Corpus Christi to Tampico in 1888, amassing large collections, which threw much light on the faunal character of this then little known region, and helped to establish the boundaries of the Tamaulipan Fauna. As the country about Tampico proved very unhealthful, Mr. Priour nearly lost his life there from a tropical fever. The next season, 1889, to enable him to recuperate and to continue his work in a more salubrious region, Mr. Sennett sent him to the eastern base of the Sierra Madra, where for several months he collected in the vicinity of Monterey. The results of these important expeditions unfortunately still remain unpublished. It was Mr. Sennett's intention to work up this material and publish thereon at the earliest opportunity, but each year business exactions demanded more and more of his time and strength, so that he never obtained the necessary leisure to enable him to seriously or consecutively take up the task, which he looked upon as merely preliminary to his contemplated great work upon the ornithology of the Rio Grande region.



His proposed monograph of the birds of this region, for which he had been for so many years gathering material, at a very considerable outlay of both time and money, remains still unwritten. It was designed to be a quarto, with numerous colored and other illustrations, and quite a number of the colored plates had been prepared, the drawings having been made by Mr. Ernest Seton-Thompson several years ago. It is therefore peculiarly sad that when the time had nearly arrived when he could to a large extent lay aside business cares and devote his energies to the completion of the work that lay so near to his heart, that death should so suddenly terminate his career while still at the prime of his intellectual and physical powers, and his enthusiasm for scientific work unabated. It is, however, expected that through the liberality of Mrs. Sennett, who was devotedly attached to his interests, and especially interested in his scientific work, provision will be made for the preparation and early publication of his work on Texas birds.

As shown by the bibliography of his writings appended to this memorial, numbering some thirty titles, Mr. Sennett was not a prolific writer, but all of his papers are real contributions to science, and indicate that if he had been free to pursue his scientific aspirations, untrammelled by business interests, he would most certainly have attained enviable prominence as an investigator.

In addition to Mr. Sennett's visits to Minnesota and Texas, already detailed, he made, in 1886, two vacation trips to the mountains of western North Carolina, which form the basis of a paper, entitled 'Observations in Western North Carolina Mountains in 1886,' published in 'The Auk' for July, 1887. He also collected and observed birds for many years about his home in northwestern Pennsylvania. His first formal paper appeared in 1878, and related to his first Texas journey; his last paper was published in 1892, and is entitled 'Description of a New Turkey,' and is based on his Texas collections.

In 1883 Mr. Sennett deposited his collections of birds and mammals in the American Museum of Natural History, later presenting to the Museum his collection of mammals, numbering several hundred specimens, mostly from Texas and eastern Mexico.<sup>1</sup>

<sup>1</sup> See Allen, J. A., 'On a Collection of Mammals from Southern Texas and Northeastern Mexico,' Bull. Am. Mus. Nat. Hist., Vol. III, No. 2, 1889, pp. 219-228. — An annotated list of 31 species. *Dipodops sennetti*, sp. nov.

It was his custom at this time, and till about 1896, to spend his winters in New York, and from about 1885 to 1893 he was able at this season to devote considerable time to ornithological work, — especially during the years 1884 to 1890, when most of his later ornithological investigations were made. In return for the storage and care of his collections on the part of the Museum, they were made freely available for scientific use, not only to the officers of the Museum, but to all specialists who might desire to consult them in their investigations. This harmonious coöperation was of great importance to the Museum, which further profited through the generous gift of specimens to supply desiderata for exhibition. As already implied, the collection, numbering over 8000 well prepared skins and nearly as many nests and eggs, is composed principally of material from Texas and north-eastern Mexico, and hence possesses special value as an exponent of the bird fauna of this portion of North America.

Mr. Sennett, though not a Founder, was one of the original members of the American Ornithologists' Union, having been elected at its first Congress held in New York City in 1883. In 1886 he was made Chairman of its Committee on the Protection of North American Birds, which position he held till 1893, or for seven years. He took a very active part in the work of the Committee, which, during the year 1886-87 held over twenty meetings at which a quorum was present, besides several informal meetings. It also prepared and distributed, under his direction, two large 'Bulletins' on bird protection, and drafted a stringent law for the protection of birds, which was afterward enacted with little change by the State of New York, and later by other States. Mr. Sennett contributed an important paper to the Committee's first Bulletin on the 'Destruction of the Eggs of Birds for Food,' as startlingly exemplified along the coast of Texas in the destruction of the eggs of Pelicans, Cormorants, Gulls, Terns, and Herons. In 1890 he delivered an address on 'Bird Legislation' before the State Board of Agriculture of Pennsylvania, which was published in the Board of Agriculture Report for that year. In this address the general subject of bird protection was admirably presented, with recommendations for future legislation by the State.

Mr. Sennett also took an active part in the work of the Linnean Society of New York as long as he made that city his place of winter resident, and for three years (1887-89) was its President. He was rarely absent from its meetings, and took a prominent part in the presentation and discussion of papers.

As a public-spirited citizen, Mr. Sennett did much for the improvement of the town of Meadville, Pa., where his iron works were situated, during the two terms of his administration as Mayor, in 1877 to 1881. During this period many improvements in drainage, lighting, and paving were introduced, and new water-works were constructed, Meadville during this period passing from the status of a country village to a full-fledged city. To this work Mr. Sennett gave much time and energy, making a special study of the latest and best authorities on sewerage and other sanitary problems.

As regards his scientific work, already so favorably mentioned, it may be added that he was so conservative and thorough in his investigations that little that he has done will need revision. As evidence of this may be cited the ten new species and subspecies of North American birds described by him, all of which have found place in the A. O. U. Check-List. Aside from ornithology, he took a general interest in other departments of natural history, especially in mammals and insects, which he always collected when opportunity favored. These were presented to various scientific institutions, among which may be mentioned Cornell University, the American Museum of Natural History, and the State Cabinet at Albany.<sup>1</sup>

My personal acquaintance with Mr. Sennett was made in 1878, shortly after his return from his second Texas trip, when he paid me the compliment of a brief call at my home in Cambridge, Mass. I knew him only casually from that time till the autumn of 1885, when I became intimately associated with him at the American Museum of Natural History in New York City. This associa-

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<sup>1</sup> In 1884 the late J. A. Lintner published a partial report on the Lepidoptera collected on his first two Texas trips in Volume IV of 'Papilio' (pp. 135-147). This partial list numbers 61 species, four of which were described as new, and one, *Ecpantheria sennettii*, was named for Mr. Sennett.

tion continued for a considerable portion of each year for the following ten years, becoming interrupted later in consequence of Mr. Sennett's business engagements, which left him very little time for work on his collections at the Museum. This long association was marked by the utmost cordiality in all our relations. He was always genial, generous and just, liberal minded, and scrupulously conscientious. In this estimate of his character I am sure I voice the sentiments of all those who knew him most intimately. Of fine physique, and, up to the last few years of his life, possessed of robust health, his future seemed to promise a long period of activity and usefulness. During the winter of 1897, however, he suffered a severe attack of pneumonia, and for some time there seemed little chance of his recovery. Although surviving this nearly fatal illness, he never fully regained his health, and the complication of diseases from which, after a short illness, he died, was clearly traceable to the earlier attack. In his untimely death science has lost an earnest worker, the American Ornithologists' Union a worthy and devoted member, and those who were his intimate scientific associates a valued personal friend.

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Flocks of a dozen to thirty-five seen in Crawford, Mercer, Venango, and Warren Counties, March 22, 1879, so loaded with ice that they were nearly unable to fly; a number were shot and a few were taken alive.

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1884. Nest and eggs of Couch's Tyrant Flycatcher (*Tyrannus melancholicus couchi*). < *Auk*, I, Jan. 1884, p. 93.

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1888. Dichromatism in the genus *Nyctidromus*. <Auk, V, April, 1888, pp. 205-206.

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1889. The Clapper Rails of the United States and West Indies compared with *Rallus longirostris* of South America. <Auk, April, 1889, pp. 161-166.

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BY GEORGE B. SENNETT.

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## BIRDS OF SAN MIGUEL ISLAND, PANAMA.

BY OUTRAM BANGS.

LYING well within the Bay of Panama is a little group of islands known as the Archipelago de las Perlas. By far the largest of these is San Miguel or Ray Island. The others are small and all are so close together that the birds are probably much the same on all.

San Miguel is distant about twenty miles from the nearest point on the main and about sixty from Panama. It is about fifteen miles long, irregularly oblong in shape, and made up of a series of low hills clothed in luxuriant tropical forest that reaches almost to high water mark. The island has a hot and unhealthy climate, and is inhabited solely by negro pearl divers who are very independent of the Panama government and run the affairs of the island to suit themselves.

As nothing was known of the birds and mammals of Archipelago de las Perlas my brother and I decided to let Mr. W. W. Brown, Jr., visit it.<sup>1</sup> Accordingly toward the end of April, 1900, Mr. Brown reached San Miguel Island, where he stayed till the middle of May, collecting birds and mammals in the most vigorous manner.

Birds were scarce on the island, both in actual numbers and in number of species, and Mr. Brown took but forty-two species there. Besides these he saw no species of which he did not get specimens, except some Terns and two kinds of Boobys. The latter were said by the inhabitants to breed on some of the smaller islands of the group.

The birds of San Miguel are for the most part quite like those of the adjacent main. Four species, however, a Tanager, a Woodpecker, a Hummingbird, and a Tyrant bird are well marked island forms, and a few others are slightly different — too slightly to warrant separation — from the mainland stock. From the

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<sup>1</sup> I have found record of but one bird from there; this is *Asturina ruficauda*, Pearl Island, Bay of Panama, Capt. Kellett and Lieut. Wood, Cat. Birds in British Mus., Vol. I, p. 205.

formation of the coasts of Panama, which infold in a semicircle the Archipelago de las Perlas, one would not expect to find the birds, especially those of strong flight, of the islands very different. Undoubtedly many are carried across from the main in storms, and some execute this journey of their own will. While Mr. Brown lay becalmed in the Bay of Panama, in the little schooner in which he took passage to San Miguel Island, he saw on several different occasions small green Hummingbirds, which he afterwards recognized as *Chlorostilbon assimilis*, pass the vessel flying from the main straight for the Archipelago.

The following list of the birds of San Miguel Island can not be assumed to be complete, still, during his three weeks stay there, in the breeding season, Mr. Brown took specimens of every species of land birds that he saw. Many migrants must also touch the island in their passage to and from the north, but Mr. Brown was rather late for these, and the Kingbird and the Water Thrush were the only two non-breeding species that he took.

Drs. Ridgway and Richmond have, with extreme kindness, examined the whole collection, confirming my identifications and comparing specimens in cases where I had not the necessary material.

*Crypturus soui modestus* (Cab.).—One young male, May 6. This skin is just like one of about the same age taken at Loma del Leon, Panama, by Mr. Brown.

*Ortalis cinereiceps* (Gray).—Two specimens, an adult male from San Miguel Island, April 29, and a female from Pedro Gonsales Island, shot by a pearl diver and brought to Mr. Brown, May 8.

*Leptotila verreauxi* Bonap.—Two specimens, a male taken April 20, and a female taken April 25.

*Columbigallina rufipennis* (Bonap.).—Two males, May 1, and May 3.

*Nyctanassa violacea* (Linn.).—One female, taken May 7.

*Agamia agami* (Gmel.).—One male, taken May 8.

*Butorides virescens* (Linn.).—One male, taken May 4. This specimen is not typical *virescens*, the wing-coverts being edged with rusty as in the Cuban form, *B. brunnescens*.

*Ictinia plumbea* (Gmel.).—One adult female, April 20.

*Scops brasiliانا* (Gmel.).—Two specimens, a pair, taken from a hole in a dead tree, May 8. The female had apparently not yet laid her eggs. These skins have been identified by Dr. Ridgway as true *brasiliانا*.

*Amazona salvini* (Salvadori).—One adult male, taken April 25. Only once did Mr. Brown see this Parrot; then a small bunch of four or

five lit in a tree near him. He tried to get in position to kill more than one at a shot but was unable to do so before they took alarm, and he had to content himself with a single individual.

*Crotophaga ani* Linn. — One adult male, taken April 30.

*Nyctidromus albicollis* (Gmel.). — One female, April 29.

*Ceryle torquata* (Linn.). — One adult male, May 8.

*Ceryle inda* (Linn.). — Two males, May 4.

### *Malanerpes seductus*,<sup>1</sup> sp. nov.

Fourteen specimens, twelve adults, including both sexes, and two nearly full grown young, the male taken April 25, the female, May 6.

*Type* from San Miguel Island, Panama, ♂ adult, No. 4892, coll. of E. A. and O. Bangs. Collected April 27, 1900, by W. W. Brown, Jr.

*Specific characters.* — An island form of the *M. wagleri* series. Similar in general to *M. wagleri* Salv. and Godm. of Panama, but slightly smaller and differing in the following details of coloration: scarlet belly patch more extensive, reaching under tail-coverts, many of these feathers being tipped and edged with scarlet, and extending forward to breast; rest of under parts (throat, breast and sides) reddish buff, some of the feathers of chin, throat and malar region, in the male tipped with scarlet (in *M. wagleri* the under parts—throat, breast and sides—are smoke gray with a yellow suffusion); nasal tufts of male reddish (yellowish in *M. wagleri*).

#### *Measurements.*

No.		Sex.	Wing.	Tail.	Tarsus.	Exposed culmen.
4892	Type	♂ ad.	102.	48.	19.	27.
4889	Topotype	♂ ad.	102.	50.	19.	26.
4890	"	♂ ad.	100.5	51.	18.6	26.4
4891	"	♂ ad.	101.	48.	18.6	26.4
4893	"	♂ ad.	102.5	47.5	19.	26.
4894	"	♂ ad.	102.5	50.	18.4	26.6
4895	"	♀ ad.	100.	49.	18.	22.6
4896	"	♀ ad.	100.	49.5	18.2	22.2
4897	"	♀ ad.	99.5	48.	18.2	25.
4898	"	♀ ad.	100.5	49.	18.4	24.2

*Remarks.*—This new woodpecker was one of the commoner

<sup>1</sup> *Seductus*, remote, living in solitude or apart.



birds of San Miguel Island, Mr. Brown seeing or hearing it every day. It is a very well differentiated island form of *M. wagleri*, at once told by its inferior size, its reddish under parts, and greatly extended scarlet belly patch.

*Phaethornis hyalinus*,<sup>1</sup> sp. nov.

Three specimens, two males, one female, April 20, and May 5.

*Type* from San Miguel Island, Panama, ♂ adult, No. 4922, Coll. of E. A. and O. Bangs. Collected May 5, 1900, by W. W. Brown, Jr.

*Specific Characters.*—Like *P. anthophilus* except in the color of the back, which in the new form is bottle-green, without a trace of the pale bronzy-green of the same part in *P. anthophilus*. Feathers of upper parts very little edged with buffy, so that the back and rump are not only darker, but much more evenly green than in *P. anthophilus*.

*Color.*—Pileum dusky; upper parts, from cervix to upper tail-coverts, dark, shining bottle-green; a few feathers of rump and upper tail-coverts very narrowly edged with buffy; supraorbital and supra-auricular regions buffy white; suborbital region blackish; side of neck mixed grayish buffy and bottle-green; chin and throat grayish white, with longitudinal dusky streaks in middle part, clear grayish white at sides; breast suffused with dull smoke-gray; belly pale drab-gray, shading toward buff on sides and under tail-coverts; wings purplish brown; wing coverts mostly bottle-green; tail dark shining bottle-green with subterminal black bar and white tip; two central rectrices much elongated (in two specimens, marked as males; very little prolonged in one marked "female?"); culmen black, mandible black at end, "basal two thirds cadimur orange" (Nos. 4922 and 4924), or "orange chrome" (No. 4923).<sup>2</sup>

*Measurements.*

No.		Sex.	Wing.	Tail.	Culmen.
4922	Type	♂ ad.	59.4	55.4	34.8
4923	Topotype	♂ ad.	61.	56.2	35.
4924	"	"♀ ?"	56.	36.4	32.

*Remarks.*—The three specimens upon which this new hum-

<sup>1</sup> *Hyalinus*, glass-green.

<sup>2</sup> Notes made by Mr. Brown from the fresh specimens.

mingbird is based are in fine plumage, showing no sign of wear. They differ so much in the shade of green of the back and tail, as well as in the greatly reduced amount of buffy edgings of the plumage above from all examples of *P. anthophilus* that I have seen, that I do not hesitate to give the form a name. Whether or not it is an island form, confined to San Miguel, I am unable to say. I, however, can not find that *P. anthophilus* has ever been recorded from so far north as Panama.

*Amizillis edwardi* (Delattre & Bourcier).—Nine adults, both sexes, April and May.

*Chlorostilbon assimilis* Lawr.—Seven adults, six males, one female, April and May.

*Mionectes oleagineus* (Licht.).—Two specimens, a pair, taken April 20. These examples agree exactly in color with South American specimens and not with the form I have lately described from Loma del Leon, Panama.<sup>1</sup> The wings are, however, a little short for true *oleagineus* and a little long for *parvus*.

*Ornithion pusillum* (Cab. & Heine).—Two males, April 29 and May 4. These are in bad plumage and are just beginning to moult. They are very dark, especially on the back, but this dull coloring is probably due to the condition of the feathers, as otherwise they are perfectly referable to true *pusillum*.

*Elænia pagana subpagana* Sch. & Salv.—Four males in worn, faded plumage. April and May, and one young in nestling plumage, May 2.

### *Elænia sordidata*,<sup>2</sup> sp. nov.

Fourteen specimens, adults of both sexes—many in worn faded plumage, others in fairly good plumage—April and May.

*Type* from San Miguel Island, Panama, ♂ adult, No. 4864, Coll. of E. A. and O. Bangs. Collected April 30, 1900, by W. W. Brown, Jr.

*Specific Characters*.—Most like *E. sororia* Bangs of the Santa Marta region of Colombia, differing from that form in broader, flatter bill; narrower white wing-bars; grayer, less olivaceous coloring of back; and smaller concealed white crown patch. Wing, tail and tarsus averaging shorter than in *sororia*, bill averaging longer (as well as broader and flatter).

<sup>1</sup> *Mionectes oleagineus parvus* Bangs, Proc. New Eng. Zool. Club, Vol. II, pp. 20-21, Sept. 20, 1900.

<sup>2</sup> *Sordidatus*, in dirty clothes, meanly dressed.

*Color.*—Upper parts grayish hair-brown, forehead not darker than back, the long feathers of crown slightly darker in the middle part; a concealed white crown patch—small, but present and of about the same size in both sexes; rather narrow wing-bars, and edgings of primaries, secondaries and tertials soiled yellowish white; throat dull grayish white; breast, sides and flanks pale, dull olivaceous; belly and under tail-coverts pale yellow; lining of wing buff-yellow.

*Measurements.*

No.		Sex.	Wing.	Tail.	Tarsus.	Exposed culmen.
4864	Type	♂ ad.	74.	62.	15.4	11.4
4854	Topotype	♂ ad.	70.	60.	15.8	—
4855	"	♂ ad.	75.	62.5	16.4	11.6
4859	"	♂ ad.	68.	59.	16.	11.
4861	"	♂ ad.	73.	64.	16.	11.8
4863	"	♂ ad.	68.	59.	15.4	11.
4856	"	♀ ad.	73.	61.5	16.4	12.
4857	"	♀ ad.	70.	59.	16.	12.
4858	"	♀ ad.	69.	60.	16.	11.
4860	"	♀ ad.	68.	58.	15.2	10.4
4862	"	♀ ad.	69.	60.5	15.6	11.

*Remarks.*—As no *Elania* of this style has been recorded from Panama, it is rather strange to find a form so close to *E. sororia* inhabiting San Miguel Island. I fancy that in fresh plumage the color differences between the two forms would be more marked; as it is they show well in series. The new form is grayer above and the contrast between head and back is less than in *E. sororia*. *E. sordidata* has also a smaller white crown patch, and less white in the wings, while the size and shape of bill and the length of wing, tail and tarsus are noticeably different in the two forms.

*E. sordidata* was not an uncommon bird on San Miguel, frequenting low brush. Its breeding season was well advanced, but Mr. Brown did not notice any young about during his stay on the island.

Our series of *E. sororia* from the Santa Marta region of Colombia is so extensive that I have been able to compare specimens killed on exactly the same dates and in precisely corresponding plumage with the series from San Miguel Island of the new form.

*Elænia placens* *Scl.*—One adult male, taken May 5.

*Sublegatus arenarum* (*Salvin*).—Five specimens, four males, one female, April and May.

These skins are inseparable from southern examples, that have been called *S. glaber* *Scl. & Salv.*, and substantiate the opinion of Messrs. Salvin and Godman (*Biol. Cent. Am.*, Vol. II, p. 37), that the species must be known as *S. arenarum*. The type locality of *S. arenarum* (described as *Elainea arenarum*) is Punta Arenas, Costa Rica.

*Myiobius nævius* (*Bodd.*).—One adult male, May 7.

*Myiarchus panamensis* *Lawr.*—Twelve adults, both sexes, April and May.

In the San Miguel Island series the wings seem to average a trifle shorter and the back is very slightly darker in color, than in a series from Loma del Leon, Panama, but these differences are not enough to warrant separating the island bird by name.

*Tyrannus tyrannus* (*Linn.*).—One female, taken April 27, a migrant. This is a small billed example, and therefore a bird that would breed far north.

*Tyrannus melancholicus satrapa* (*Licht.*).—Ten adults, both sexes, April and May.

*Cercomacra maculicaudis* (*Scl.*).—Eleven adults, both sexes, April and May.

*Drymophila intermedia* (*Cab.*).—Two adult males, April 30 and May 1. These agree exactly with southern specimens (Venezuela and Colombia). San Miguel Island, however, appears to be the most northern record for the species.

*Thamnophilus doliatus nigricristatus* (*Lawr.*).—Six adults, two males and four females, April and May. The two males are extreme examples of the black-capped form — *nigricristatus*.

*Vireo chivi agilis* (*Licht.*).—Four specimens, two pairs, all taken April 29. This was an uncommon bird on the island, and in one place Mr. Brown found these two pairs. He thinks he saw no others during his stay.

The color of the back is rather darker than usual, but the birds are in worn plumage and in all other respects agree with mainland specimens of *agilis*.

*Thryophilus galbraithi* *Lawr.*—Eight adults, both sexes, April and May.

These examples are almost imperceptibly more reddish on the back than mainland birds.

*Seiurus noveboracensis* (*Gmel.*).—One female, taken April 29, a migrant.

*Dendroica vieillotii* *Cassin.*—One male, taken May 7, in rather worn plumage.

*Cœreba mexicana columbiana* (*Cab.*).—Fourteen specimens, adults of both sexes and three nearly full grown young, just emerging from nestling plumage, taken April 20, May 4, and May 5.

*Cyanerpes cyaneus* (Linn.).—Two males, taken April 30.

*Rhamphocelus limatus*,<sup>1</sup> sp. nov.

Thirteen specimens, adults of both sexes, April and May.

*Type* from San Miguel Island, Panama, ♂ adult, No. 4990, coll. of E. A. and O. Bangs. Collected May 4, 1900, by W. W. Brown, Jr.

*Specific Characters*.—Most nearly like *R. dimidiatus*, but smaller; bill smaller; colors rather duller throughout; adult male with the black belly patch (so conspicuous a marking in *R. dimidiatus*) almost wanting; thighs dark reddish brown, instead of black; wings dull brownish black instead of jet black; adult female with interscapulum duller and browner, therefore whole head and back more nearly uniform.

*Color*.—Adult ♂ head and scapulars dark crimson, the feathers blackish basally; rump and upper tail-coverts intense scarlet vermilion; wings brownish black, the lesser coverts and some of the middle coverts edged with dull dark crimson; greater coverts, secondaries and tertials edged with brick red; throat and jugulum dull crimson; breast, sides and under tail-coverts scarlet vermilion (not so intense as rump)—the lower part of the feathers, just above their slaty bases orange; tibia dark reddish brown; on central portion of belly some of the feathers are brick red with blackish slate bases, forming a small, slightly darker belly patch, varying a little in size and darkness in different individuals—very different from the large, pronounced black belly patch of *R. dimidiatus*; tail black; lining of wing black; feet black; bill slate black; base of lower mandible French gray.

Adult ♀, head all round, and back brown—crown darkest, dusky, back walnut brown; forehead, chin and a few scattering feathers on sides of head dark liver brown; wing and tail dusky brown; rump, upper tail-coverts, breast, belly and under tail-coverts dull red, most intense on upper breast and upper tail-coverts; lining of wing dull cinnamon; bill dark horn color.

No.		Sex.	Wing.	Tail.	Tarsus.	Exposed culmen.
4990	Type	♂ ad.	77.	69.5	21.2	15.2
4991	Topotype	♂ ad.	79.	70.	21.	15.
4992	"	♂ ad.	77.	70.	20.2	15.
4993	"	♂ ad.	78.5	68.5	21.	15.
4994	"	♂ ad.	76.	67.	20.8	15.2
4995	"	♂ ad.	76.5	67.	20.2	15.
4996	"	♂ ad.	77.	68.	20.	15.2
4997	"	♂ ad.	78.	67.	21.	15.
4998	"	♂ ad.	76.	68.	20.	14.8
4999	"	♀ ad.	73.5	65.	20.4	15.
5000	"	♀ ad.	73.	66.	20.	15.

<sup>1</sup> *Limatus*, elegant, refined.



*Remarks.*—This handsome little *Rhamphocelus* is a strongly characterized island form of the *dimidiatus* series, differing in addition to its small size in the greatly reduced and less black belly patch, browner wings and rather duller general coloration. It was found by Mr. Brown generally distributed over San Miguel Island, but like all the birds of the island, in small numbers. All the specimens taken were in breeding condition.

The discovery of *R. limatus* on San Miguel Island adds the fifth species of *Rhamphocelus* described from Panama within a few years—*R. festae*, *R. inexpectatus*, *R. chrysopterus*, and *R. dunstalli*, not to mention *R. costaricensis* from Costa Rica!

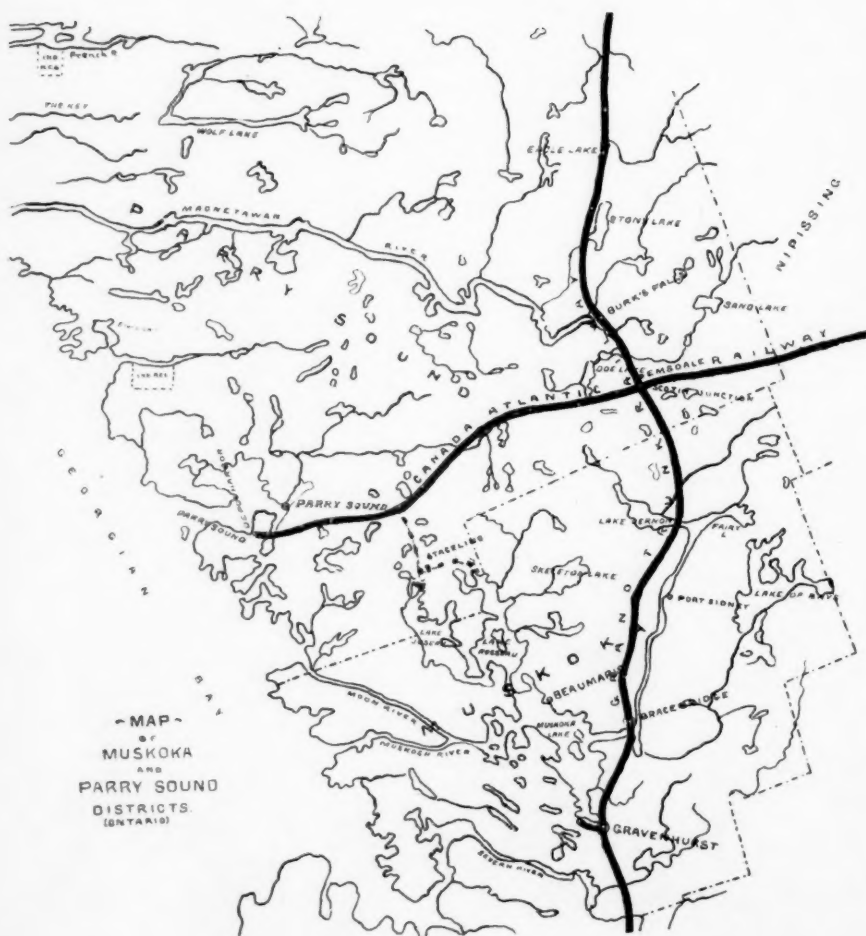
*Tanagra cana diaconus* (Less.).—Seven adult males, April and May. These are indistinguishable from Panama birds generally.

*Saltator albicollis isthmicus* (Scl.).—Fifteen specimens, both sexes, April and May. These birds were breeding; a female taken May 7 had an egg in the oviduct, others had laid their sets. All are in worn, very dull plumage, and at first sight look very different from a series taken in March at Loma del Leon. Closer inspection shows the duller plumage to be due to season, and the form of San Miguel Island is probably in no wise different from the mainland bird.

*Volatinia jacarini splendens* (Vieill.).—Two adults, a pair taken April 20. These two specimens have larger bills, but in all other ways agree with *splendens*. It is not worth while to separate the form of San Miguel on this character alone, though it appears to be a slightly differentiated island race.

*Oryzoborus funereus* Scl.—Three specimens, a male and two females taken April 21, April 27, and May 2.





PARRY SOUND AND MUSKOKA, ONTARIO.

A LIST OF THE BIRDS OF THE DISTRICTS OF  
PARRY SOUND AND MUSKOKA, ONTARIO.

BY JAMES H. FLEMING.

PARRY SOUND, and Muskoka are two districts lying to the east of the Georgian Bay in the Province of Ontario. The formation is Laurentian; the country is still largely covered with forest; though a proportion of the better land has been cleared, rock, lake and forest are what appear most prominently to the casual observer. These districts form the west slope of the watershed that finds its height in the Algonquin National Park, not far outside the east boundary of Parry Sound. The districts are drained by the French River (the northern boundary of Parry Sound), the Magnetawan, the Muskoka, and on the south, the Severn; all these run nearly west, and with assistance of many tributaries and lesser rivers carry off the surplus water into the Georgian Bay and thus to Lake Huron.

The forest, with the exception of white pine, most of which has been cut, is still largely in its primitive state, and forms a breeding shelter for many species of birds, that in the older parts of Ontario are only migrants, or, at the most, casual breeders. Many resident species find their limit here, appearing only in the more southern parts of Ontario when driven by stress of food. Although such a breeding ground, the forest seems to contain few if any birds, and only around the settlements are birds much in evidence. With the gradual clearing of the land birds that were formerly unknown in the districts are working gradually northward, though without displacing the forest species.

Of the ornithology of Parry Sound, as far as I know, nothing has been printed, and of Muskoka little beyond the notes published several years ago by Mr. A. Kay in the 'Transactions' of the Canadian Institute and the 'Biological Journal' of Ontario; Mr. Kay, whose long residence in Muskoka makes his notes of exceptional value, has allowed me to make full use of them; I have also made full use of the valuable notes furnished by Mr. P. A. Tavernier, principally relating to Lake Muskoka, about 30 species

of Muskoka birds being added on his authority. To Mr. E. F. Handy, of Emsdale, the success of my work in Parry Sound is largely due, he having been my constant companion during all my collecting trips in that district. Much work remains to be done on Lake Nipissing, and on the Georgian Bay.

The position, and when possible, the altitudes of the principal points mentioned are given below, as follows: <sup>1</sup>

Station.	Latitude.	Longitude.	Height above Sea.
Gravenhurst . . . .	44° 54'	79° 20'	770 feet
Huntsville . . . .	45° 19'	79° 8'	
Parry Sound . . . .	45° 19'	80° 0'	635 "
Emsdale . . . . .	44° 30'	79° 14'	
Burks Falls . . . .	45° 30'	79° 18'	
North Bay . . . .	46° 34'	79° 30'	

Gravenhurst, mean temperature, summer, 64.8°; year, 41.4°.

Parry Sound, " " " 63.5, " 40.6.

The map gives only the larger lakes and takes in only a portion of the French River which, with Lake Nipissing, forms the northern boundary of Parry Sound.

1. *Colymbus holboëllii*. HOLBELL'S GREBE. — Mr. Kay had one taken at Windemere, on Lake Rosseau.

2. *Colymbus auritus*. HORNE GREBE. — Reported from Lake Muskoka, by Mr. Tavernier.

3. *Podilymbus podiceps*. — PIED-BILLED GREBE. — Breeds in both districts, but does not appear to be abundant.

4. *Gavia imber*. LOON. — Abundant summer resident, breeding in most of the lakes.

5. *Uria lomvia*. BRÜNNICH'S MURRE. — A straggler taken at the town of Parry Sound in December, 1897; Mr. Kay took one at Port Sydney.

6. *Larus leucopterus*. ICELAND GULL. — Mr. Kay reports having taken one on April 6, 1898, at Port Sydney; it was a female and is now in his collection.

7. *Larus argentatus smithsonianus*. AMERICAN HERRING GULL. — Common in both districts; breeds. At Sand Lake I noticed a curious habit these Gulls have of roosting at night on some dead pines that stood on a small island in the lake.

<sup>1</sup> From the reports of the Meteorological Service.



8. *Larus delawarensis*. RING-BILLED GULL.—Common in the Georgian Bay, breeds as far in as the Muskoka Lakes.

9. *Oceanites oceanicus*. WILSON'S PETREL.—Mr. Tavernier recorded one taken several years ago on Lake Muskoka; it was identified by Mr. Ridgway, and is now in my collection.

10. *Pelecanus erythrorhynchos*. AMERICAN WHITE PELICAN.—I recorded one taken on Lake Nipissing, in 'The Auk,' Vol. XVII, p. 177.

11. *Merganser americanus*. AMERICAN MERGANSER.—Common, breeds.

12. *Merganser serrator*. RED-BREASTED MERGANSER.—Reported as wintering at Port Sydney by Mr. Kay. Breeds in both districts.

13. *Lophodytes cucullatus*. HOODED MERGANSER.—Reported as resident at Port Sydney by Mr. Kay. Breeds in both districts.

14. *Anas boschas*. MALLARD.—Reported by Mr. Tavernier, at Beaumauris.

15. *Anas obscura*. BLACK DUCK.—Generally distributed; breeds in suitable localities in both districts.

16. *Nettion carolinensis*. GREEN-WINGED TEAL.—Occurs in the larger bodies of water.

17. *Querquedula discors*. BLUE-WINGED TEAL.—Reported at Beaumauris by Mr. Tavernier.

18. *Spatula clypeata*. SHOVELLER.—Mr. Tavernier reports having seen one from Muskoka.

19. *Dafila acuta*. PINTAIL.—Mr. Tavernier reports one from Muskoka.

20. *Aix sponsa*. WOOD DUCK.—A common summer resident, breeds.

21. *Aythya americana*. REDHEAD.—I have met with this duck in both districts.

22. *Aythya marila*. AMERICAN SCAUP DUCK.—Reported from Muskoka by Mr. Tavernier.

23. *Aythya affinis*. LESSER SCAUP DUCK.—Occurs not uncommonly in the autumn.

24. *Clangula clangula americana*. AMERICAN GOLDEN-EYE.—Reported from Muskoka by Mr. Tavernier.

25. *Charitonetta albeola*. BUFFLE-HEAD.—Reported from Beaumauris by Mr. Tavernier.

26. *Harelda hyemalis*. OLD-SQUAW.—Mr. Kay records one taken at Port Sydney on April 26, 1890; and I heard of no further records for Muskoka till March, 1899, when, according to Mr. Tavernier, several were picked up at Beaumauris on the ice, in the last stages of starvation.

27. *Oidemia perspicillata*. SURF SCOTER.—A young bird taken at Beaumauris by Mr. Tavernier.

28. *Chen hyperborea nivalis*? GREATER SNOW GOOSE? A small flock of Snow Geese were seen at Emsdale, in the spring of 1898, and about a year later Mr. Handy saw a flock of about seven pass north over Emsdale.

29. *Branta canadensis*. CANADA GOOSE.—Considerable flocks pass north and south on their migrations but rarely alight.

30. *Botaurus lentiginosus*. AMERICAN BITTERN.—Generally distributed; reported as common at Beaumauris, by Mr. Tavernier; Mr. Kay found it breeding at Port Sydney.

31. *Ardetta exilis*. LEAST BITTERN.—I have not yet met with this Bittern in Parry Sound; I saw one at Washago in May, 1899; Mr. Tavernier saw one at Beaumauris; Wm. Melville records one taken at Gravenhurst.

32. *Ardea herodias*. GREAT BLUE HERON.—An abundant breeding bird.

33. *Nycticorax nycticorax nævius*. BLACK-CROWNED NIGHT HERON.—I saw one at Washago in May, 1899, and another a few days later on the Magnetawan River, between Burks Falls and Emsdale.

34. *Grus americana*. WHOOPING CRANE.—A pair were seen by Mr. Handy at Emsdale in 1895; he was attracted by their loud cries and watched them for some time as they hovered over, evidently undecided where to go.

35. *Grus mexicana*. SANDHILL CRANE.—Mr. Tavernier reports one taken at Beaumauris several years ago; it is now in the hotel there.

36. *Rallus virginianus*. VIRGINIA RAIL.—Mr. Kay reports it from Port Sydney. Reported from Gravenhurst by Wm. Melville, and at Beaumauris by Mr. Tavernier.

37. *Gallinula galeata*. FLORIDA GALLINULE.—Reported from Beaumauris by Mr. Tavernier.

38. *Fulica americana*. AMERICAN COOT.—Reported from Beaumauris by Mr. Tavernier.

39. *Philohela minor*. AMERICAN WOODCOCK.—Mr. Handy saw one near Kearney in 1896; Wm. Spreadborough in Prof. Macoun's list of Canadian birds, refers to a pair that bred near Bracebridge.

40. *Gallinago delicata*. WILSON'S SNIPE.—A pair breed regularly at Emsdale, also reported at Beaumauris by Mr. Tavernier.

41. *Totanus melanoleucus*. GREATER YELLOW-LEGS.—Passes through both districts during migrations. Several years ago a flock was seen at Emsdale during a snowstorm.

42. *Helodromas solitarius*. SOLITARY SANDPIPER.—A summer resident in both districts; not common.

43. *Actitis macularia*. SPOTTED SANDPIPER.—Plentiful everywhere, even breeding on the rocky shores of the smaller forest lakes.

44. *Numenius hudsonicus*. HUDSONIAN CURLEW.—The only record I have is of one found on June 4, 1897, in a Duck Hawk's nest at Beaumauris, by Mr. Tavernier.

45. *Ægialitis vocifera*. KILLDEER.—Occurs regularly at Emsdale; probably breeds at Muskoka.

46. *Canachites canadensis*. CANADA GROUSE.—Local and much scarcer than it was some years ago. I have a specimen from Rosseau,

Mr. Tavernier has seen specimens taken at Beaumauris, and Mr. Handy regards it as scarce at Emsdale.

47. *Bonasa umbellus togata*. CANADIAN RUFFED GROUSE.—Both districts are essentially partridge country; they are plentiful everywhere, particularly in the unsettled parts of the country.

48. *Lagopus lagopus*. WILLOW PTARMIGAN.—Two were shot at Callander, eight miles south of North Bay, in December, 1896; Mr. Handy heard of some the same winter at a place not far from Burks Falls, but their presence in Parry Sound was, I believe, due to an unusual migration that occurred that season.

49. *Pediocetes phasianellus*. SHARP-TAILED GROUSE.—In October of 1896 a southern migration of this Grouse took place. They spread themselves over both districts. The two or three previous records I had regarded as belonging to the prairie form which is found at Port Arthur; but those taken in 1896 are, I believe, true *phasianellus*.

50. *Ectopistes migratorius*. PASSENGER PIGEON.—Once abundant in both districts, breeding; now, if it occurs at all, only in such small numbers as to escape detection.

51. *Zenaidura macroura*. MOURNING DOVE.—Mr. Tavernier heard one at Beaumauris in May, 1898, and Mr. Handy reported a pair at Emsdale in 1899.

52. *Elanoides forficatus*. SWALLOW-TAILED KITE.—Mr. Kay reports one as having been seen at Port Sydney on July 15, 1897; it sailed several times about his place, and was distinctly seen.

53. *Circus hudsonius*. MARSH HAWK.—Generally distributed; breeds in suitable places in both districts.

54. *Accipiter velox*. SHARP-SHINNED HAWK.—Generally distributed, scarce. A nest taken by Mr. Handy at Emsdale, on May 18, 1893, contained one egg.

55. *Accipiter cooperii*. COOPER'S HAWK.—Reported as rare at Beaumauris by Mr. Tavernier.

56. *Accipiter atricapillus*. AMERICAN GOSHAWK.—Never a scarce bird, the number of breeding birds has greatly increased since the autumn of 1896, when the districts were invaded by considerable flights of this hawk; since that date the number of pairs breeding in the districts has noticeably increased.

57. *Buteo borealis*. RED-TAILED HAWK.—Not a common Hawk; breeds.

58. *Buteo lineatus*. RED-SHOULDERED HAWK.—Generally distributed and fairly common; breeds.

59. *Buteo latissimus*. BROAD-WINGED HAWK.—Common; a large number breed. I took a nest with three eggs at Emsdale on May 27 1897.

60. *Archibuteo lagopus sancti-johannis*. AMERICAN ROUGH-LEGGED HAWK.—Sparingly distributed in Parry Sound as a migrant; reported at Port Sydney by Mr. Kay.

61. *Aquila chrysaetos*. GOLDEN EAGLE.—Previous to 1897 I was aware of only one record for Muskoka; since March of that year I have received several from Parry Sound.

62. *Haliaetus leucocephalus alascanus*. NORTHERN BALD EAGLE.—A common resident, breeds. I believe this bird is the northern form.

63. *Falco peregrinus anatum*. DUCK HAWK.—A pair nest on Lake Muskoka regularly; Mr. Tavernier took a set of four eggs from the nest on May 24, 1898; the bird is scarce in both districts.

64. *Falco columbarius*. PIGEON HAWK.—Scarce; a pair bred for some years, regularly, on an island in Lake Joseph.

65. *Falco sparverius*. AMERICAN SPARROW HAWK.—A common breeding species, abundant in both districts.

66. *Pandion haliaetus carolinensis*. AMERICAN OSPREY.—Generally distributed; not common inland. I met with a nest in the center of a large herony, in Parry Sound.

67. *Asio wilsonianus*. AMERICAN LONG-EARED OWL.—I have one taken by Mr. Handy at Emsdale, and Mr. Kay has taken one at Port Sydney; but it can only be regarded as a straggler.

68. *Asio accipitrinus*. SHORT-EARED OWL.—The only records I have heard of are of two found at Port Sydney by Mr. Kay.

69. *Syrnium nebulosum*. BARRED OWL.—A common resident; breeds.

70. *Scotiaptex cinerea*. GREAT GRAY OWL.—Sometimes abundant in the winter.

71. *Nyctala tengmalmi richardsoni*. RICHARDSON'S OWL.—Mr. Kay has met with one or two at Port Sydney.

72. *Nyctala acadica*. SAW-WHET OWL.—Not common at Emsdale; reported as resident at Port Sydney by Mr. Kay.

73. *Megascops asio*. SCREECH OWL.—Rare at Emsdale; Mr. Kay reports it as resident at Port Sydney.

74. *Bubo virginianus*. GREAT HORNED OWL.—A common breeding species; resident.

75. *Bubo virginianus subarcticus*. WESTERN HORNED OWL.—I have a specimen taken at Rosseau.

76. *Bubo virginianus saturatus*. DUSKY HORNED OWL.—Large numbers of Horned Owls come into the districts every winter from the north, probably from Hudson Bay; among them are some as dark as the dark Labrador form.

77. *Nyctea nyctea*. SNOWY OWL.—This Owl is found in both districts in the winter, but is not common, except in years of unusual migrations.

78. *Surnia ulula caparoch*. AMERICAN HAWK OWL.—I have had specimens from both districts; it is rare and not by any means a regular winter visitor. Mr. J. Huges Samuel took a female at Scotia Junction on December 14, 1898.

79. *Coccyzus americanus*. YELLOW-BILLED CUCKOO.—I have met with it nesting at Rosseau, and I believe it occurs at Emsdale.

80. *Coccyzus erythrophthalmus*. BLACK-BILLED CUCKOO.— Generally distributed over both districts; breeds.

81. *Ceryle alcyon*. BELTED KINGFISHER.— Abundant everywhere; breeds.

82. *Dryobates villosus leucomelas*. NORTHERN HAIRY WOODPECKER.— One of the commonest resident woodpeckers; very fond of wind-brakes and burnt lands as breeding grounds.

83. *Dryobates pubescens medianus*. DOWNY WOODPECKER.— An abundant resident species, usually nesting in the woods.

84. *Picoides arcticus*. ARCTIC THREE-TOED WOODPECKER.— A common resident in Parry Sound, rarer in Muskoka. This Woodpecker has a habit of sometimes nesting in colonies. I saw the nests of such a colony near Sand Lake in 1896; there were six or seven nests, each cut into the trunk of a living cedar, just below the first branch, and usually eight or ten feet from the ground. The cedars were in a dense forest, overlooking a small stream that empties into Sand Lake. Four eggs seems to be the full set. The young are hatched by the first of June.

85. *Picoides americanus*. AMERICAN THREE-TOED WOODPECKER.— Rare, only appearing in the winter; Mr. Handy sent me a pair taken at Emsdale, and it has been recorded from Muskoka.

86. *Sphyrapicus varius*. YELLOW-BELLIED SAPSUCKER.— A common breeding species, perhaps the commonest of the Woodpeckers in the summer.

87. *Ceophlæus pileatus abieticola*. NORTHERN PILEATED WOODPECKER.— Resident in both districts; not plentiful.

88. *Melanerpes erythrocephalus*. RED-HEADED WOODPECKER.— One of the species that is increasing with the settlement of the country. Mr. Kay speaks of it as rare at Port Sydney in 1890, but increasing rapidly; in 1893 it was rare at Emsdale, but has become much commoner.

89. *Colaptes auratus luteus*. NORTHERN FLICKER.— Abundant; breeds.

90. *Antrastomus vociferus*. WHIP-POOR-WILL.— Fairly common in Muskoka; I have not met with it in Parry Sound.

91. *Chordeiles virginianus*. NIGHTHAWK.— Common summer resident; breeds.

92. *Chaetura pelagica*. CHIMNEY SWIFT.— Abundant; breeds.

93. *Trochilus colubris*. RUBY-THROATED HUMMINGBIRD.— Plentiful during migrations. The males arrive at Emsdale soon after the 15th of May, the females a few days later; I think some go further north but a great many remain to breed.

94. *Tyrannus tyrannus*. KINGBIRD.— Abundant in the settled districts; breeds.

95. *Myiarchus crinitus*. CRESTED FLYCATCHER.— Reported as common at Beaumauris on May 12, 1898, by Mr. Tavernier; I believe it will be found distributed in the summer over both districts.

96. *Sayornis phœbe*. PHŒBE.— Abundant summer resident; breeds.

97. *Contopus borealis*. OLIVE-SIDED FLYCATCHER.—In the spring of 1894 I found this Flycatcher not uncommon in the country between Kearney and Sand Lake; they frequented the tops of the highest dead pines.

98. *Contopus virens*. WOOD PEWEE.—A common breeding species.

99. *Empidonax flaviventris*. YELLOW-BELLIED FLYCATCHER.—A common and widely distributed species; breeds.

100. *Empidonax traillii alnorum*. ALDER FLYCATCHER.—I took a male at Emsdale on May 29, 1899. Mr. Kay has taken the nest of this species at Port Sydney.

101. *Empidonax minimus*. LEAST FLYCATCHER.—The most abundant of the small Flycatchers; breeds.

102. *Otocoris alpestris*. HORNED LARK.—Mr. Lambe of Toronto has a specimen taken at Gravenhurst.

103. *Otocoris alpestris praticola*. PRAIRIE HORNED LARK.—An abundant breeding resident. Mr. Kay gives 1887 as the date of its first appearance at Port Sydney.

104. *Pica pica hudsonica*. AMERICAN MAGPIE.—One was seen at Port Sydney by Mr. Kay, Dr. Brodie, and Mr. H. Brown, in the summer of 1898.

105. *Cyanocitta cristata*. BLUE JAY.—One of the most abundant resident birds.

106. *Perisoreus canadensis*. CANADA JAY.—Common in Parry Sound, reported by Mr. Kay as a winter resident only in Muskoka.

107. *Corvus corax principalis*. NORTHERN RAVEN.—A common resident in Parry Sound; rarer in Muskoka.

108. *Corvus americanus*. AMERICAN CROW.—Abundant about the settlements. On one occasion I saw Crows feeding in the same field with a pair of Ravens, but usually they do not intermingle.

109. *Dolichonyx oryzivorus*. BOBOLINK.—One of the species that is finding its way northward. I saw a female at Emsdale in May, 1899; she was seen later in the summer with a male and a brood of young. Mr. Tavernier saw the first one at Beaumauris in August, 1897, and reported them as increasing in 1898.

110. *Molothrus ater*. COWBIRD.—I first saw this bird at Emsdale on May 26, 1899, about a dozen of both sexes; Mr. Kay gives 1889 as the year of their first appearance at Gravenhurst. Mr. Tavernier reported them as common at Beaumauris on April 22, 1898.

111. *Agelaius phoeniceus*. RED-WINGED BLACKBIRD.—Common in marshy districts along the larger rivers.

112. *Sturnella magna*. MEADOWLARK.—Mr. Kay puts its first appearance in Muskoka about 1863, and regards it as becoming common at Port Sydney; it occurs at Beaumauris.

113. *Icterus galbula*. BALTIMORE ORIOLE.—Mr. Kay gives 1887 as the year of its first appearance at Port Sydney, and Mr. Tavernier refers to it as increasingly common at Beaumauris.



114. *Scolecophagus carolinus*. RUSTY BLACKBIRD.—Assembling in large flocks in the autumn. I am not aware that they breed in either district.

115. *Quiscalus quiscula æneus*.—BRONZED GRACKLE.—A common breeding species; at Kearney they nest in old Woodpecker holes.

116. *Coccothraustes vespertinus*. EVENING GROSBEAK.—Sometimes appears in large flocks in winter; it comes into Parry Sound much more regularly than is supposed. A flock remained at Emsdale till the end of the first week of May, 1897, feeding on the seeds of the sumach.

117. *Pinicola enucleator canadensis*. PINE GROSBEAK.—A common winter resident, sometimes appearing in immense flocks. In September, 1898, I saw small flocks feeding on the tops of the highest pines.

118. *Carpodacus purpureus*. PURPLE FINCH.—A common resident in both districts.

119. *Loxia curvirostra minor*. AMERICAN CROSSBILL.—Resident in both districts; they gather in immense flocks and come into the settlements or about the lumber shanties.

120. *Loxia leucoptera*. WHITE-WINGED CROSSBILL.—Not as abundant as the former; a resident in both districts.

121. *Acanthis hornemannii exilipes*. HOARY REDPOLL.—I examined one taken by Mr. Kay at Port Sydney.

122. *Acanthis linaria*. REDPOLL.—An abundant winter visitor, often remaining till the beginning of May.

123. *Acanthis linaria holbœllii*. HOLBÖLL'S REDPOLL.—A specimen taken by Mr. Kay at Port Sydney on April 14, 1890 (a male) was identified at the Smithsonian Institution as this subspecies.

124. *Acanthis linaria rostrata*. GREATER REDPOLL.—Among a number of Redpolls from Parry Sound, examined by Mr. Ridgway, were specimens intermediate between this species and *A. linaria*. I have, however, seen typical specimens from Muskoka.

125. *Astragalinus tristis*. AMERICAN GOLDFINCH.—An abundant resident in both districts.

126. *Passer domesticus*. HOUSE SPARROW.—Up to a few years ago this sparrow was seen only in the larger towns; it is now found in many of the smaller settlements. I saw a flock at Sand Lake in October, 1900, and shot a single bird in an uninhabited clearing of not more than half an acre, fully three miles in the bush, from the last house.

127. *Spinus pinus*. PINE SISKIN.—I have often met with immense flocks; they keep together till May when they either disperse or disappear. In the winter the flocks are joined by Redpolls and Goldfinches.

128. *Passerina nivalis*. SNOWFLAKE.—Abundant in the winter, the last leave for the north soon after the first of May, and some are back by the first of October.

129. *Calcarius lapponicus*. LAPLAND LONGSPUR.—The only record I am aware of is that of a flock reported by Wm. Melville at Gravenhurst on April 29, 1890, and published in the 'Biological Review' of Ontario.

130. *Poœcetes gramineus*. VESPER SPARROW.— One of the commonest summer residents.

131. *Ammodramus sandwichensis savanna*. SAVANNA SPARROW.— Reported by Mr. Tavernier as common at Beaumauris on April 22, 1898. I have not met with it in Parry Sound.

132. *Zonotrichia leucophrys*. WHITE-CROWNED SPARROW.— A fairly common migrant; they go further north to breed.

133. *Zonotrichia albicollis*. WHITE-THROATED SPARROW.— A common migrant; a good many breed. I took a nest near Sand Lake on May 25, 1897. It was placed under some dead ferns on the flat grassy bank of a stream, and was lined with moose hair; there were four eggs in the set. I took a nest some years ago at Rosseau, built about three feet up in a raspberry bush.

134. *Spizella monticola*. TREE SPARROW.— A regular winter resident. Common at Sand Lake in October, 1900.

135. *Spizella socialis*. CHIPPING SPARROW.— A common summer resident, usually breeding about the settlements.

136. *Spizella pusilla*. FIELD SPARROW.— Mr. Kay took one at Port Sydney in the summer of 1890.

137. *Junco hyemalis*. SLATE-COLORED JUNCO.— A common breeding resident, very fond of nesting near old bush roads.

138. *Melospiza fasciata*. SONG SPARROW.— Abundant; breeds.

139. *Melospiza georgiana*. SWAMP SPARROW.— One taken at Beaumauris on May 14, 1898, by Mr. Tavernier is the only record I am aware of.

140. *Passerella iliaca*. FOX SPARROW.— Regarded as rare at Port Sydney in 1888, by Mr. Kay; reported as common on September 7, 1896, at Beaumauris by Mr. Tavernier.

141. *Pipilo erythrophthalmus*. TOWHEE.— First seen at Port Sydney by Mr. Kay in 1887, they bred there in 1891; reported as rare at Beaumauris in 1897 by Mr. Tavernier.

142. *Zamelodia ludoviciana*. ROSE-BREADED GROSBEAK.— A common summer resident, breeding usually in second growth hardwood.

143. *Cyanospiza cyanea*. INDIGO BUNTING.— A fairly common summer resident; arrives later than most species.

144. *Piranga erythromelas*. SCARLET TANAGER.— A common summer resident; breeds in hardwood bush.

145. *Progne subis*. PURPLE MARTIN.— Reported as increasingly common at Bracebridge, and in the settled parts of Muskoka by Mr. Tavernier.

146. *Hirundo erythrogastra*. BARN SWALLOW.— Abundant summer resident; breeds.

147. *Tachycineta bicolor*. TREE SWALLOW.— Abundant summer resident. I have met with them nesting in deserted Woodpecker holes.

148. *Clivicola riparia*. BANK SWALLOW.— An abundant summer resident.

149. *Ampelis garrulus*. BOHEMIAN WAXWING.— Occurs rarely in both districts in the winter.

150. *Ampelis cedrorum*. CEDAR WAXWING.—Common resident, usually nesting along the banks of streams.

151. *Lanius borealis*. NORTHERN SHRIKE.—A not uncommon winter resident. I met with them at Sand Lake in October, 1900.

152. *Lanius ludovicianus*. LOGGERHEAD SHRIKE.—Reported as common at Beaumauris by Mr. Tavernier.

153. *Vireo olivaceus*. RED-EYED VIREO.—A very common summer resident.

154. *Vireo philadelphicus*. PHILADELPHIA VIREO.—A not uncommon bird in Parry Sound. I believe they breed, as they are always paired by the middle of May.

155. *Vireo gilvus*. WARBLING VIREO.—I have taken it several times at Emsdale in May; Mr. Tavernier has taken one at Beaumauris.

156. *Vireo flavifrons*. YELLOW-THROATED VIREO.—One taken at Beaumauris by Mr. Tavernier.

157. *Vireo solitarius*. BLUE-HEADED VIREO.—Not uncommon in both districts in May; they probably remain to breed.

158. *Mniotilta varia*. BLACK AND WHITE WARBLER.—A common summer resident.

159. *Helminthophila rubricapilla*. NASHVILLE WARBLER.—A summer resident, breeding in swampy places.

160. *Helminthophila peregrina*. TENNESSEE WARBLER.—On May 18, 1897, I took one of these Warblers in a large alder swamp near Emsdale, and saw several more in the same place on May 22. They continued common till the 26th, when I saw only one. I have not since met with this Warbler in Parry Sound, and I have no Muskoka records.

161. *Compsothlypis americana usneæ*. NORTHERN PARULA WARBLER.—A common summer resident; they arrive about the middle of May and for the first two weeks keep to the highest trees.

162. *Dendroica æstiva*. YELLOW WARBLER.—I took a male at Emsdale on May 27, 1899, the only one I have seen in Parry Sound; it was not uncommon at Rosseau in 1887, and Mr. Tavernier regards it as common at Beaumauris.

163. *Dendroica cærulescens*. BLACK-THROATED BLUE WARBLER.—An abundant summer resident. I took a nest on June 8, 1894. It was on the side of a hill in a dense hardwood bush, and was placed on the fallen branch of a dead hemlock, shaded by the horizontal branch of a seedling maple.

164. *Dendroica coronata*. MYRTLE WARBLER.—Fairly common in the spring.

165. *Dendroica maculosa*. MAGNOLIA WARBLER.—An abundant summer resident.

166. *Dendroica pensylvanica*. CHESTNUT-SIDED WARBLER.—An abundant summer resident.

167. *Dendroica castanea*. BAY-BREASTED WARBLER.—Not abundant; I have met with it only during migration.

168. *Dendroica blackburniæ*. BLACKBURNIAN WARBLER. — A common summer resident.

169. *Dendroica virens*. BLACK-THROATED GREEN WARBLER. — A common summer resident; breeds. Mr. Kay refers to it as only just becoming common at Port Sydney in 1890.

170. *Dendroica vigorsii*. PINE WARBLER. One taken by Mr. Tavernier on April 30, 1898, is the only record I have for either district.

171. *Seiurus aurocapillus*. OVEN-BIRD. — One of the most abundant summer residents; breeds on the ground, usually in the open hardwood bush.

172. *Seiurus noveboracensis*. WATER-THRUSH. — A pair taken by Mr. Kay at Port Sydney on May 24, 1889, is the only record I have for either district.

173. *Geothlypis philadelphia*. MOURNING WARBLER. — A fairly common summer resident; one of the latest arrivals in the spring.

174. *Geothlypis trichas*. MARYLAND YELLOW-THROAT. — A fairly common summer resident; arrives about the same time as the Mourning Warbler.

175. *Wilsonia pusilla*. WILSON'S WARBLER. — The only record I have is that of a male I took on the Magnetewan River, near Emsdale, on May 20, 1897.

176. *Sylvania canadensis*. CANADIAN WARBLER. — A common summer resident.

177. *Setophaga ruticilla*. AMERICAN REDSTART. — One of the most common summer residents.

178. *Anthus pensilvanicus*. AMERICAN PIPIT. — Reported as common at Beaumauris in the autumn by Mr. Tavernier; Mr. Kay saw some at Port Sydney on August 15, 1890; they occur regularly in Muskoka, and were common at Sand Lake in October, 1900.

179. *Galeoscoptes carolinensis*. CATBIRD. — An abundant summer resident, breeding usually on the edge of the forest or in gardens of the settlers.

180. *Harporhynchus rufus*. BROWN THRASHER. — Mr. Kay records one from Port Sydney, taken on May 7, 1890; I am sure it occurs at Emsdale but have never been able to take one.

181. *Troglodytes ædon*. HOUSE WREN. — Common summer resident; breeds in hollow fence posts or stumps, and under the roofs of houses.

182. *Anorthura hiemalis*. WINTER WREN. — A common species; breeds.

183. *Certhia familiaris fusca*. BROWN CREEPER. — A very common resident; breeds.

184. *Sitta carolinensis*. WHITE-BREASTED NUTHATCH. — A common resident. I found a nest on May 24, 1893, at Emsdale; it was in a natural hollow in a large maple, and about thirty feet from the ground. The six eggs were laid on the rotten wood and surrounded by a few of the bird's feathers.

185. *Sitta carolinensis*. RED-BREASTED NUTHATCH.—A common resident; breeds.

186. *Parus atricapillus*. CHICKADEE.—An abundant breeding resident.

187. *Parus hudsonicus*. HUDSONIAN CHICKADEE.—Mr. Kay saw a pair at Port Sydney in November, 1892; I have looked for it carefully in Parry Sound but without success.

188. *Regulus satrapa*. GOLDEN-CROWNED KINGLET.—An abundant winter resident. On two occasions I have met with birds in May, that from their actions must have been nesting.

189. *Regulus calendula*. RUBY-CROWNED KINGLET.—A common resident in the autumn and winter.

190. *Hylocichla mustelinus*. WOOD THRUSH.—I have one taken at Emsdale on May 17, 1897; in September, 1898, near the narrows of Lake Joseph I came across a flock feeding on choke cherries; I counted seventeen and there were probably more in the flock. Dr. Brodie says they were common in June at Port Sydney.

191. *Hylocichla fuscescens*. WILSON'S THRUSH.—An abundant breeding resident.

192. *Hylocichla ustulatus swainsonii*. OLIVE-BACKED THRUSH.—A common summer resident; breeds.

193. *Hylocichla aonalaschkæ pallasii*. HERMIT THRUSH.—A common summer resident. I took a nest on May 17, 1897, which was built among dead leaves at the base of a dead iron-wood sapling, and contained four eggs.

194. *Merula migratoria*. AMERICAN ROBIN.—Common about the settlements. Reported as occurring at Gravenhurst in the winter of 1889-90, in Trans. Canadian Institute, Vol I, p. 19.

195. *Saxicola œnanthe*. WHEATEAR.—A female was taken at Beaumauris on September 24, 1896, by Mr. Tavernier. It was among a flock of Titlarks. The bird was identified by Mr. Ridgway, and is the first record for Ontario.

196. *Sialia sialis*. BLUEBIRD.—Again becoming commoner; formerly it was one of the common birds.

## DESCRIPTIONS OF FIVE NEW BIRDS FROM MEXICO.

BY E. W. NELSON.

THE birds described below form a part of the Biological Survey collection.<sup>1</sup>

I wish to express my obligations for courtesies extended to me by Mr. Wm. Brewster of Cambridge, Mass., and by Mr. Robert Ridgway and Dr. Chas. W. Richmond of the U. S. National Museum, during the preparation of this paper.

***Glaucidium palmarum*, new species. TEPIC PIGMY OWL.**

Type No. 155,955, ♀ ad., U. S. National Museum, Biological Survey Collection. From Arroyo de Juan Sanchez, Territory of Tepic, Mexico. Collected April 5, 1897, by E. W. Nelson and E. A. Goldman.

*Distribution.* — Known only from type locality.

*Description of type.* — Top of head and nape brownish isabella thickly marked with transversely oval whitish spots — largest and clearest white on nape; middle of back plain bistre brown; upper surface of wings and tail and upper tail-coverts nearly Prout's brown of Ridgway; tertials and wing-coverts spotted with white or rusty white; outer edges of primaries and secondaries spotted with same; tail feathers marked with five transverse series of large rounded white spots; ear-coverts buffy whitish barred with brown; chin, malar area and under tail-coverts white; sides of breast and feathers of tarsus rusty brownish; rest of underparts white heavily streaked with rusty brownish.

*Dimensions of type.* — Wing, 87; tail, 56; culmen, 9; tarsus, 21.

*Notes.* — This bird is smaller and more rusty brown with a more heavily spotted crown than *G. gnoma* or its northern subspecies. Through the courtesy of Mr. Wm. Brewster I have compared the type of the present species with his series of *G. gnoma* from Chihuahua and *G. gnoma hoskinsii* of Lower California. It agrees closely in size with *Glaucidium fisheri* but differs widely in color, also in tail and crown markings. The type of *G. palmarum* was shot in the midst of a palm forest on a low ridge near the sea coast south of San Blas, Tepic.

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<sup>1</sup> All measurements are in millimeters.



**Colinus minor**, new species. LEAST BOB-WHITE.

Type No. 166,362, ♂ ad., U. S. National Museum, Biological Survey. Collection, from Palenque, Chiapas, Mexico, collected June 1, 1900, by E. W. Nelson and E. A. Goldman.

*Distribution.*—Grassy plains of Chiapas near Palenque, the adjacent parts of Tabasco, and probably thence into adjoining border of Guatemala.

*Description of type.*—Broad superciliary stripe from base of bill to sides of nape, chin and throat white; rest of head and broad collar around lower border of white throat patch, black; top of shoulders, sides of breast and underparts of body chestnut rufous, with broad maculated edgings of black and gray on shoulders and narrower edgings of black on underparts, changing to black and white spots on under tail-coverts; feathers of back and rump with blackish centres and maculated borders of dark gray and brown; scapulars and upper tail-coverts blotched with black and finely maculated with black, brown and gray; upper side of tail slaty gray finely marked near tips with whitish.

*Dimensions of type.*—Wing, 93; tail, 53; culmen, 13; tarsus, 28.

*Notes.*—This species is most like *Colinus godmani* but is decidedly smaller and differs considerably in the distribution of the black and rufous; however, material from intermediate parts of their ranges may prove these differences to be of only subspecific value. The females are paler and more distinctly barred on underparts than in *C. godmani*.

**Empidonax trepidus**, new species. CHANCOL FLYCATCHER.

Type No. 154,593, ♂ ad., U. S. National Museum, Biological Survey Collection. From Hacienda Chancol, Guatemala, collected January 5, 1896, by E. W. Nelson and E. A. Goldman.

*Distribution.*—Highlands of Chiapas and Guatemala.

*Description of type.*—Top of head and nape olive with a dark grayish shade; back paler more greenish olive; ring around eye yellowish white; sides of head and neck, pectoral band and sides of breast olive gray with wash of yellowish; chin and throat grayish white with pale yellowish suffusion; abdomen and under tail-coverts dull yellow; wings brownish gray; wing-coverts broadly tipped with pale brownish gray, sometimes shaded with yellowish, forming two well-marked wing bands; outer web of outer tail feather much paler than inner web.

*Dimensions of type.*—Wing, 73; tail, 66; culmen, 11; tarsus, 17.

*Notes.*—This species is closely related to *Empidonax affinis*

Swains. and *E. pulverius* Brewst. From the former it may be distinguished by its duller, grayer color, especially on underparts. From *E. pulverius* it differs mainly in its much smaller size and rather darker, grayer color. We secured seven specimens of this bird on the highlands of Chiapas, Mexico, and Guatemala, where it is probably resident. The distribution of the three flycatchers named above is as follows:

*Empidonax pulverius* Brewster.—Pine forests of the Sierra Madre of western Mexico from Chihuahua to Jalisco, Zacatecas, and across to Tamaulipas.

*Empidonax affinis* Swain.—Pine-forested slopes of mountains on southern border of the Mexican tableland from the Valley of Mexico to Mt. Orizaba and the Sierra Madre of Guerrero.

*Empidonax trepidus*.—Pine-forested slopes of the highlands in Chiapas and Guatemala.

**Phœnicothraupis littoralis**, new species. TABASCO ANT  
TANAGER.

Type No. 166,208, ♂ ad., U. S. National Museum, Biological Survey Collection. From Frontera, Tabasco, Mexico, collected March 4, 1900, by E. W. Nelson and E. A. Goldman.

*Distribution*.—From heavy coastal forests of Tabasco north to southern Tamaulipas.

*Subspecific characters*.—The adult male differs from *P. salvini* mainly in its much more vivid poppy red underparts, especially on throat and breast; upperparts clearer, more vinaceous red; crest deeper richer scarlet. The females differ still more, having a strong reddish suffusion on underparts with distinct traces of red crest on crown. Size about as in *P. salvini* but bill larger.

*Dimensions of type*.—Wing, 105; tail, 92; culmen, 19; tarsus, 28.

*Notes*.—True *P. salvini* appears to be a bird of the forested foothills being replaced in the lower coast lowlands by the species described above. At first I proposed to treat this bird as a subspecies of *P. salvini*, but in view of the absence of any specimens showing intergradation between the widely different females of the two it is probably safest to consider them as full species until the contrary is proved.

**Heleodytes zonatus restrictus**, new subspecies. TABASCO  
WREN.

No. 166,601, ♂ ad., U. S. National Museum, Biological Survey Collection. From Frontera, Tabasco, Mexico, collected April 26, 1900, by E. W. Nelson and E. A. Goldman.

*Distribution.*—Wooded coast plains of Tabasco.

*Subspecific characters.*—Differs from typical *H. zonatus* (from mountain slopes of Vera Cruz) mainly in much heavier and transversely broader black spotting on under side of neck and breast; rest of lower parts much more dingy buff, heavily barred and spotted on sides and flanks with black; back more like that of *zonatus* but with little or no traces of rusty buff suffusion.

*Dimensions of type.*—Wing, 92; tail, 95; culmen, 24; tarsus, 29.

*Notes.*—The very heavy black spotting and barring on the underparts with the dull dingy shade of buff on the crissum renders this form very readily distinguishable from typical *H. zonatus*. Its range appears to be restricted to the wooded coast lowlands while we found *H. zonatus* only on the wooded slopes of the cordillera in Vera Cruz and Tabasco. We obtained ten specimens of this new form at Frontera.

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THE SEQUENCE OF MOULTS AND PLUMAGES OF  
THE LARIDÆ (GULLS AND TERNS).

BY JONATHAN DWIGHT, JR., M. D.

THE importance of the moulting of birds from the standpoint of the systematist becomes apparent if we stop to consider that each moult marks a point of transition from one plumage to another and is therefore a key to their relationship. It is, however, not far from the truth to say that the natural sequence of plumages and moults is but imperfectly understood in many species, while the times of year at which moults occur and the areas of feathers involved in partial moults, especially of young birds, are matters still offering a wide field for investigation.

The moulting of the Gulls and Terns has received little attention save at the hands of C. L. Brehm in 1854, although their plumage has been elaborately discussed by many writers, especially Saunders and Coues. It is my present purpose to point out as clearly as circumstances permit the relation that exists between the different stages of plumage and moult of these interesting birds. It would be far easier to do this if the age of the specimens in hand could be accurately known, but unfortunately there are limits to the physiological and osteological evidences of immaturity even in fresh birds, while dried skins tell us nothing of age unless they chance to show transition stages at a period of active moult. Such specimens in my own collection as I have studied while fresh have enabled me to follow details of moult obscured or completely lost in museum specimens, and I have had opportunity afforded me, through the courtesy of Dr. J. A. Allen, of examining the large series in the American Museum of Natural History. Mr. Wm. Brewster has also given me opportunity of examining his extensive collection, so that I have been able not only to trace successive stages of plumage in a large number of species of Gulls and Terns, chiefly North American, but in many cases I have found specimens in the midst of moult which fill the gaps between the stages. As a result of my studies I can confidently affirm that these birds conform to the same laws of plumage development that operate in other species. These I have so fully explained in a recent article (*Annals N. Y. Acad. Sci.*, XIII, 1900, pp. 74-345, pll. vii), intended to be the first of a series but delayed in publication, that I need only refer to it. Among the Laridæ will be found the same definite sequence of plumages and moults as in other species. Adults wear a winter or autumnal and a nuptial, summer or breeding plumage separated by postnuptial and prenuptial moults, while young birds pass from the downy or natal plumage to the juvenal and first winter dresses by a postnatal and a postjuvenal moult respectively. The moults occur at definite periods, and the feather growth spreads from definite points in the feather tracts, so that nothing is a matter of chance unless it be the arrested development that befalls all organisms and occasions in birds the retention of old feathers among those that are replaced by new at the time of a partial moult. So it often happens that some plum-

ages are made up of parts of several earlier ones, a fact that has given rise, no doubt, to the old idea that a color change was in progress.

It may be well to briefly outline the order of renewal in the Laridæ although it does not differ materially from that of other groups of birds. The dorsal feathers at the root of the neck are apt to be the first to show renewal, but almost simultaneously new feathers begin to appear on the humeral tracts, on the anterior parts of the head, at the sides of the breast, on the flanks and at fresh points on the back, the new growth tending to spread backwards from these initial points with some indication of alternate feather replacement. New feathers begin to show along the cubital borders of the wings, and the proximal primary is lost early in the moult. The others fall in succession, the inner primaries more rapidly than the outer, and each gains nearly full length before the next is lost. When only three or four remain, the distal secondary succumbs to moult, followed rapidly by the others, so that the proximal is lost before the distal primary is fully grown. The growth of this primary marks very nearly the completion of the moult, although the rectrices are often a little later, the middle pair falling usually coincidently with the distal secondary, followed by adjacent pairs, except that the outer pair may precede the one adjacent and that almost the whole tail may be lost at once in some cases. The last feathers to be renewed may be found at many points, especially on the forehead, nape, interramal space, posterior parts of the body and in the median wing-coverts. If the moult be partial only the back, head and neck are affected, together with, perhaps, the cubital borders of the wings and the tertiaries, and sometimes apparently little more than the anterior part of the back succumbs. It is important to know the relative order in feather growth because partial moults, beginning at the same points as complete ones, extend somewhat irregularly for only a limited distance from them.

All of the species of Gulls and Terns appear to belong to the class of birds in which the adults moult twice every year. The Terns undergo two complete moults in a year and while the Gulls also undergo two, the prenuptial is incomplete and never includes the remiges and rectrices, or the wings and tail. Further than this, two groups of Gulls may be recognized, (1) the smaller species

with an extensive prenuptial moult, which acquire adult plumage at the first postnuptial, and (2) the larger species, with a more limited prenuptial, which acquire few if any signs of adult plumage until the second postnuptial change. The postnuptial moult, beginning directly after the breeding season, proceeds more rapidly than the prenuptial, which is rather a leisurely affair, beginning sometimes, especially in the case of the Gulls, as early as mid-winter. Young birds regularly by an incomplete postjuvenal moult pass into a first winter plumage which, among the Terns, is scarcely different from the adult winter dress; among the smaller Gulls it is recognizable in most species by black-banded tails and dusky cubital bands, the remains of juvenal dress, and among the larger Gulls it is of quite a different pattern and color from the mature plumage of adults. The postjuvenal moult seldom manifests itself before the end of September or much later, and in the larger species proceeds so leisurely that it sometimes appears to overlap the first prenuptial, beginning as early as February or March.

It is an interesting question whether young birds breed before their second summer. A considerable number of immature birds of different species are certainly found in summer south of their breeding range, but their numbers do not seem to warrant the conclusion that all young birds do not breed the first summer. It is more probable that they are the less vigorous individuals of the species. They have been credited with remaining in winter plumage, but this impression needs qualification, for I have examined, while fresh, eight specimens of the Arctic Tern (*Sterna paradisæa*), and three of the Kittiwake Gull (*Rissa tridactyla*), which show clearly evidences of a recent prenuptial moult, only instead of assuming nuptial dress they have reverted to the winter plumage. I secured these birds on Sable Island, Nova Scotia, between June 5 and 11, 1894, and dissection showed that they were neither breeding nor about to do so. The Terns were of course in the plumage once described as "*Sterna portlandica*," and were easily distinguishable among thousands of Common, Arctic and Roseate Terns already breeding, by their white foreheads, dusky cubital bands, short tails and black feet and bills. Attention was often drawn to them by their single harsh croak



seldom uttered as they circled among the clouds of Terns in the proportion of perhaps one to one thousand. The Kittiwakes were obtained from a small flock, and it is of interest that this species does not breed within several hundred miles of Sable Island. Birds of several other species in a similar first nuptial plumage have occasionally been taken, but their significance has not been understood. We may attribute the lateness of their prenuptial moult to lack of vigor, if we please, and it is possible some of the midsummer birds that we have supposed were adults passing by an early postnuptial moult to winter plumage are really immature birds, but for further light on this point we must look to field observers. As such birds assume in early summer a winter dress, it is possible that their moult is really a first postnuptial, no further feather change occurring for a year, but it seems more probable that a postnuptial moult takes place later when they assume for the third time in succession a plumage that is certainly of the winter type. The Kittiwakes cited, and some museum specimens of several other species, seem to point to a similar sequence among Gulls.

Much might be said upon the subject of wear, under which I include all the destructive results of abrasion and bleaching, but suffice it here to direct attention to a couple of points. One is the extremely marked fading of the buff edgings of plumages of young birds, especially the juvenal, in which the buff often becomes white; and the other is loss of the 'frosting' or 'silvering' on the wings of many species, which produces black primaries. The 'frosting' is due to elongated, curved and frilled barbules on the distal sides of the barbs, and when the barbules are worn off their black basal portion becomes conspicuous. As a rule the fourth primary of each wing appears to suffer most, the third, second and first or distal blackening later in the order indicated.

We may now take up in their natural sequence the plumages and moults of a Tern, of a small Gull and of a large Gull, the three chosen being typical of all the others, and I begin with the Tern, as the number of recognizable plumages are fewer owing to the complete double or semiannual moult.

The sexes among the Laridæ are fortunately alike in all plumages, only to the more salient features of which reference will be made

***Sterna hirundo* Linn. COMMON TERN.**

1. *Natal Down*. — This covers the chicks thickly and is yellowish with black spots or mottling above and a dusky area on the chin and sides of the throat.

2. *Juvenal Plumage* acquired by a complete postnatal moult shortly after leaving the egg. Dusky markings and buff edgings are conspicuous above, the lower parts being a clear white. The forehead is pale brown blending into a dull black occiput. Buffs and browns later become dull white by fading and the blacks become brownish. The forking of the tail is much less than that of adults and the rectrices are more rounded, darker and tipped with dusky or buff markings, which become largely lost by wear. A couple of rows of lesser coverts along the cubital border of the wing form a dull black band. The flesh-colored bill and feet, after first brightening, begin to darken.

In Nova Scotia young birds are on the wing before the first of August but often not till considerably later, and the birds of the Virginia coast do not seem to be very much earlier. The misfortunes to eggs and broods must be held responsible for the extreme variations in the times of moult of this as well as other species of terns. Some, if not all terns, young as well as adults, migrate southward before beginning to moult, as is proved by specimens taken in juvenal and nuptial dress far south of their breeding grounds.

3. *First Winter Plumage* acquired by a partial postjuvenal moult, limited to the body feathers, and sometimes a few of the lesser wing-coverts. The new mantle is gray except for the dusky cubital bands. The forehead is white and the occiput black, with some tendency to streaking on the crown. The bill and feet become wholly black. Save for the less forked, darker tail and traces of buff on the retained wing-coverts, young birds closely resemble adults. The change to this plumage is not apt to begin before the end of September on the Atlantic coast.

4. *First Nuptial Plumage* acquired by a complete first pre-nuptial moult, which explains the freshness of all the feathers of breeding birds. The lateness of this moult in some birds is indicated by over fifty specimens (some of which appear to be

adults) taken in Florida between May 28 and June 3, which vary from birds with the first primary barely grown to those still retaining two or three of the old primaries and a number of old rectrices and body feathers. The black cap is now assumed, the dusky cubital bands disappear, and the bill and feet become chiefly coral red. The significance of certain birds which reassume the winter plumage has already been discussed.

5. *Second Winter Plumage* acquired by a complete first post-nuptial moult, as a rule not earlier than September. This dress is hardly distinguishable from that of the first winter, and the bill and feet turn black before the moult is completed.

6. *Second Nuptial Plumage* acquired by a complete second pre-nuptial moult. The older birds are probably represented by the specimens with longer, more attenuated lateral rectrices which are paler than those of young birds, but it is difficult to say how much the slight differences are due to age, and how much to individual variations. Young and old are not distinguishable after the first prenuptial moult, and later plumages and moults are but repetitions of winter and nuptial changes.

What is true of sequence in *Sterna hirundo* is evidently true of all the North American Terns and probably of other species, of which I have seen but few specimens. Most species are black-capped in nuptial dress. *S. hirundo*, *S. paradisæa* and *S. dougalli* assume in winter white foreheads gradually blending into dull black occiputs; *S. maxima*, *S. elegans* and *S. sandwichensis aculeata* have a distinctly black and white streaked crown between the white forehead and black occiput; *S. caspia* has the whole cap streaked with black and white, black predominating; *S. forsteri*, *S. antillarum*, *S. fuliginosa*, *S. anæsthesia*, *Geochelidon nilotica* and *Hydrochelidon nigra surinamensis* have caps largely white anteriorly and gray posteriorly. The winter mantle appears to be regularly somewhat paler than the nuptial, strikingly so in the Black Tern. In this species the sootiness is foreshadowed even in the natal down, while the black and white mottling during the progress of moults is a very conspicuous feature. In *Anous stolidus* the winter dress differs from the nuptial chiefly on the crown, which is nearly as brown as the rest of the plumage, only a narrow white supraloral line remaining.

The period of the prenuptial moult on the Atlantic coast covers the months of February, March, April and May, large species like *S. maxima* and those with a southern breeding range moulting chiefly in the first two of these months and other species later. The postnuptial moult begins in July in some species and not till September in others. The postjuvenal moult seldom begins before the postnuptial and often not till October. The species are all so harassed on their breeding grounds that the natural season of moult is doubtless much extended when eggs or young are swept away by the elements or the equally ruthless hand of man.

I have examined the type specimen of "*Sterna pikei*" which has correctly been identified as *S. paradisæa*. The bird is apparently assuming winter dress with dusky cubital coverts, retaining only one primary of the old plumage. The broken bill seems to be in transition from the carmine nuptial to the black winter color. "*Sterna havelli*" is of course the winter plumage of *S. forsteri*, and such birds as are found in summer in this dress will probably prove to be non-breeding, like "*S. portlandica*."

To illustrate the plumages and moults of the smaller Gulls I might choose any one of several species of which I have seen full series. I have selected the following<sup>s</sup> as a typical species.

#### ***Larus philadelphia* (Ord). BONAPARTE'S GULL.**

1. *Natal Down*.—Much like that of *Sterna hirundo*, yellowish with dusky mottling above.

2. *Juvenal Plumage* acquired by a complete postnatal moult. The upper surface is decidedly brown with paler edgings, a blackish brown band extends along the cubital border of the wing into the tertiaries, the secondaries have dusky markings, the primaries show little white, their coverts being partly black, and the tail is white with a broad subterminal black band, the rectrices being tipped with buff. The sides of the head are white with a dull black auricular patch and an anteorbital spot, and the rest of the lower parts are white with a brownish wash on the sides of the neck and breast. The bill and feet are black.

3. *First Winter Plumage*, acquired by a partial postjuvenal moult late in September and October which involves only the body

feathers, just as in *S. hirundo*. A blue-gray mantle and paler head are assumed, the retained wing markings and banded tail of the juvenal dress characterizing young birds until their first postnuptial moult.

4. *First Nuptial Plumage*, acquired by a partial first prenuptial moult during March and April on the Atlantic coast. Much of the body plumage is renewed, the mantle and lower parts resembling the winter dress, while the deep plumbeous hood is partly, and probably in many birds fully acquired. I have examined early May specimens from New York which still show new growth of feathers at the usual points. Some specimens appear to reassume the winter dress, or merely a dusky somewhat mottled head, analogous to the change in "*Sterna portlandica*."

5. *Second Winter Plumage* acquired by a complete first postnuptial moult, beginning about the middle of July in New York and fully a month earlier in California. Maine specimens show the beginning of the moult early in August. It is doubtful whether birds that appear on our coasts very early have been breeding birds, and the same question may be raised in regard to other species. At this moult birds assume adult characters, a wholly gray mantle, a white tail, and primaries showing large white areas extending to the outer webs, obvious even with the wings closed.

6. *Second Nuptial Plumage* assumed by a partial second prenuptial moult at which the full dark hood replaces the grayish white one outlined on the winter dress. It is unnecessary to trace later plumages, which resolve themselves into successive adult winter and adult nuptial dresses.

Species that moult precisely like *L. philadelphia* are *L. atricilla*, *L. franklinii*, *L. ridibundus*, *Rodostethia rosea*, *Xema sabinii* and *Rissa tridactyla*. All of these I have examined and find that the dark-banded juvenal tail and wings are retained until the first postnuptial moult when young and old become practically indistinguishable. The bill in several species reddens or becomes yellow in summer, changing to black or plumbeous in winter. The adult postnuptial moult is seldom completed before October in any of these species, and the postjuvenal often occurs still later. *Rissa tridactyla* is peculiar in assuming a juvenal mantle that is gray without distinct edgings, and the first winter mantle is



also gray, the black nuchal patch usually being obliterated by new feathers. The claim of a color-change without moult in *Larus ridibundus* is not substantiated by a series of specimens taken throughout the year. In first winter plumage there is a brownish crown patch and occipital band concealed by white or gray feather tips, much as in *L. philadelphia*, and as these wear off the brown comes more into view, but at the same time new darker brown feathers grow. A specimen in the midst of a second (or later) prenuptial moult (Amer. Museum No. 54632, ♀, March 6, England) shows new growing feathers not only on the head but elsewhere; the forehead anteriorly still retains the worn white plumage of the winter dress. Another bird (Amer. Museum No. 26977, ♀, March 25, France) has acquired the full brown hood of new feathers, some of them still pushing out from their sheaths. If such feathers were recolored how is their perfect structure to be explained?

We come now to a third type of moult which is peculiar to all of the larger Gulls, and I have chosen as a representative species

#### *Larus argentatus* Brünn. HERRING GULL.

1. *Natal Down*.—Grayish above with obscure mottling on the back and black spots on the head and throat, paler below.

2. *Juvenal Plumage* acquired by a complete postnatal moult. Above grayish brown with whitish and buffy edgings; below plumbeous with inconspicuous whitish mottling, the head and neck paler and tending to streaking. The primaries are uniformly brownish black. The rectrices are similar but basally, and the outer one slightly, mottled with grayish white. The bill is plumbeous and the feet flesh-colored.

3. *First Winter Plumage* acquired by a limited postjuvenal moult which is apparently either suppressed in some individuals or postponed till the prenuptial period. The worn and faded juvenal dress is replaced on the back, head, and sides of breast by a similar plumage, which, however, is somewhat grayer and more mottled. November specimens are most apt to show this growth, which is very gradual and easily overlooked.



4. *First Nuptial Plumage* acquired by a limited first prenuptial moult in March, the renewal being over the same areas affected by the postjuvenal. It is extremely difficult to obtain enough specimens to show the limits of these two moults, which may possibly represent but one. It may be that some birds moult either at one period or the other and not at both, but at all events moulting birds may be found both in spring and fall. Mottled brown feathers and rarely gray ones are assumed at both times and it seems proper to recognize two moults analogous to those occurring in adults. Specimens have been reported as breeding in juvenal dress, but it is possible such birds have been in either first or second nuptial plumages.

5. *Second Winter Plumage* acquired by a complete postnuptial moult, chiefly in August on the Atlantic coast. An immature dress is assumed, the mantle being largely pearl gray but mixed with mottled brownish feathers, especially on the wing-coverts. The lower parts are largely white but much clouded with dusky edgings. The white head, neck and rump are heavily streaked. The tail is white heavily sprinkled centrally with dusky brown. The secondaries are similarly mottled. The primaries are dull black, sometimes with small white apical spots, the first usually with traces of a subapical spot, sometimes with none. The amount of individual variation seems to be within reasonable limits, the average of which I have here indicated.

6. *Second Nuptial Plumage* acquired by a limited second prenuptial moult in March or April, the back getting new gray feathers and the head and neck becoming white clouded a little with brownish gray. The bill becomes yellow. These birds unless closely examined would pass for adults.

7. *Third Winter Plumage* acquired by a complete second postnuptial moult. A mantle wholly pearl gray is now assumed, the lower parts and the tail becoming pure white. The customary winter streaking of the head and neck is reduced. The primaries are tipped with white, the first having a large white subapical spot, and the second sometimes shows signs of one. The moult is at its height about the first of September.

8. *Third Nuptial Plumage* acquired by a limited third prenuptial moult, at its height in March. A pure white head, neck and breast

and a gray back are acquired. The feet in adults remain flesh-colored.

9. *Fourth Winter Plumage* acquired by a complete third postnuptial moult. This is practically like the third winter or later winter plumages, and although the age of birds after the second postnuptial moult can only be inferred from their plumage, it is probable that the white spots of the primaries, especially of the first, increase with age. The size of the bill and the whiteness of the head in winter also increase. As a progressive increase in these matters can be demonstrated at the time of three moults, it is logical to assume, within certain limits, a continued increase, and so in older birds we would expect a fusion of the two terminal areas of white on the first primary. The presence of a divided white area is the chief character on which the American subspecies *smithsonianus* rests, and unless differences from the European birds can be found in all of the stages of plumage just indicated the separation rests on a very slender basis. Is the European bird always marked by one white area? It is not difficult to pick out a series of American birds showing all gradations from a first primary with a small white spot to one that ends in a broad dash of white, and I believe that the scarcity of the whiter-tipped specimens is due rather to the diminishing numbers of older birds and their increasing wariness than to the straggling to America of Old World birds.

The question of age has not been sufficiently taken into account by the systematists who have attached undue importance to the spots and spaces of white and gray found on the wings of gulls. There is no question but that there is a progressive increase, with age, of white or gray areas in many species. The white spot of the first primary grows larger in a number of species at successive moults, and in many of the species the blackness of the feather shaft through it is gradually lost. The size and proportions of the bill also vary with age, while its color varies both with age and with season, being dark in winter and usually yellow in summer. These matters should be weighed in studying the affinities of the gulls. The larger ones may be conveniently divided into three classes: those with black primaries, those with white, and those with gray. In all three the sequence of plumages and moults

is nearly identical with that of *Larus argentatus*, as I have determined by series of birds of several species taken at important transition points of the moults.

Of the first class, in juvenal plumage the primaries are wholly dull black with a similar tail, the body feathers being more or less gray or brown, the darkest species of those examined being *L. heermanni*, with *L. marinus*, *L. occidentalis*, *L. californicus* and *L. argentatus* somewhat lighter. *L. delawarensis*, *L. canus* and *L. brachyrhynchus* are similar in plumage except for their banded tails, the first species differing from all the others in its dusky spotted body plumage. At the postjuvenal and first prenuptial moults the faded dress is partly exchanged for one less brown, the smaller species apparently sometimes assuming a few bluish gray feathers on the back. At the first postnuptial moult, the black primaries and tail are reassumed, and in those species which, when adult, have spotted primaries, there is often the suggestion of a white spot on the first primary. The new tail is speckled with gray, being white basally and laterally; in banded species the band becomes narrower but does not disappear as is usual in gulls of the type of *L. philadelphia*. The body plumage acquired is largely white, veiled with brown, except that the gray mantle, mixed with speckled feathers, is now apparent. *S. heermanni* remains wholly dark. Birds pass their second winter in this plumage, which varies in the proportion of adult characters according to the individual. The second prenuptial moult adds to the grayness of the mantle and to the whiteness of the head and lower parts, and birds would pass for adults were it not for the wings and tails. When these are again renewed at the second postnuptial moult the first primary shows a spot and the rectrices become wholly white or with but a touch of darker color. Later than this we can scarcely follow differences of plumage. The nuptial and the winter mantles hardly differ, and the brown streaking of the head in winter appears to diminish with age, while the areas of white on the wings apparently increase, as well as the proportions of the whole bird.

The gulls which have white primaries when adult, viz., *L. glaucus*, *L. barrovianus* and *L. leucopterus*, do not in juvenal plumage differ very much from *L. argentatus*, being of a uniform

deep gray color with buffy edgings. They are paler, however, and the primaries are deep gray instead of black. The limited moults of the body feathers during the winter, together with fading, effect a slight paling. At the first postnuptial moult pale brown, sometimes partly mottled remiges and rectrices are acquired and a similar brown variegated body plumage. The primaries are very nearly white. A specimen of *L. glaucus* (Amer. Mus. No. 64144, September 1, Greenland) in fresh plumage, still showing the sheaths of the first primary and several rectrices, seems to prove that the brown mottled dress is a second winter plumage, and not a first as generally supposed. This is the plumage that later, at the second prenuptial moult, acquires a sprinkling of pearl gray feathers. Not till the second postnuptial moult are the white primaries and partly pearl gray mantle assumed. This seems to be the sequence of these plumages, as well as may be judged from material that gives only slight clues as to age. We may suppose the absolutely white "*Larus hutchinsii*" to be an extremely adult *glaucus* similar to occasional nearly pure white specimens of *leucopterus*. There is at all events nothing about such birds, which are rare, to suggest immaturity.

We come lastly to consider the gulls with gray-patterned primaries, which include *L. glaucescens*, *L. kumlieni* and *L. nelsoni*. In juvenal plumage *glaucescens* is only a trifle darker than *glaucus*, though distinguishable by size, and like it appears to assume a similar first winter and first nuptial dress by limited renewal of body feathers. At the first postnuptial moult a similar brown mottled dress seems to be assumed with pale primaries while part of the gray mantle and a white head are added at the second prenuptial moult. The first gray-patterned primaries and white tail are apparently not acquired until the second postnuptial moult, together with the first adult plumage. There is of course possibility of error in examining series, large or small, and it may be that the mottled specimens of both *glaucus* and *glaucescens* are exceptions, while the majority of the birds acquire a more adult plumage at the first postnuptial moult, as does *argentatus*, *occidentalis*, etc. Do we know I may ask, how great is the proportion of immature birds of the former two species as compared with the latter?

Without the examination of further material I cannot determine definitely the status of *kumlieni* and *nelsoni*, but I am of opinion that the former is a plumage of *leucopterus* after the second postnuptial moult, and the latter is possibly a similar stage of *glaucescens*. This question and many others present themselves as we learn what bearing age has in modifying plumage and proportions of the Gulls. I think the specific distinctness of *L. barrovianus* from *glaucus* is open to doubt, and *brachyhynchus* is likely to prove merely a variety of *canus*, while *L. schistisagus*, *L. affinis*, *L. cachinnans* and *L. vegæ*, on further study, may perhaps show new affinities.

My sketch of the sequence of moults and plumages of the Gulls and Terns has necessarily been superficial in many respects, but at least we have gained enough insight into the usual course of their changes of plumage to see that plumages are definite entities acquired along definite lines of development. It seems to me that, with all the material available for study at the present day, we should avoid classing together, as in the past, unrelated stages of "immature" plumage and specify precisely what stage we mean unless we wish to subject ourselves to the lurking suspicion that our knowledge or our methods have not kept pace with our scientific zeal.

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#### EIGHTEENTH CONGRESS OF THE AMERICAN ORNITHOLOGISTS' UNION.

THE EIGHTEENTH CONGRESS of the American Ornithologists' Union convened in Cambridge, Mass., Monday evening, November 12, 1900. The business meeting was held in Mr. William Brewster's museum, and the public sessions, commencing Tuesday, November 13, and lasting three days, were held in the Nash Lecture-room of the University Museum.

**BUSINESS SESSION.**—The meeting was called to order by Vice-President Merriam, in the absence of the President, Mr. Robert



Ridgway. Eighteen active members were present. The Secretary's report gave the membership of the Union at the opening of the present Congress as 748, constituted as follows: Active, 46; Honorary, 16; Corresponding, 65; Associate, 621.

During the year the Union lost seventy-eight members — ten by death, twenty-three by resignation, and forty-five were dropped for non-payment of dues. The members lost by death were Dr. Elliott Coues,<sup>1</sup> an Active Member, and one of the Founders of the Union, who died at Baltimore, Md., December 25, 1899, at the age of 57; George B. Sennett,<sup>2</sup> also an Active Member, who died in Youngstown, Ohio, March 18, 1900, aged 59 years; Prof. Alphonse Milne-Edwards,<sup>3</sup> an Honorary Member, who died in Paris, April 21, 1900, at the age of 64; Dr. D. Webster Prentiss,<sup>4</sup> one of the Founders of the Union, and for twelve years an Active Member, who died in Washington, D. C., November 19, 1899, aged 56 years. Owing to failing health he resigned his Active Membership in 1895, and on the acceptance of his resignation he was reelected as a Corresponding Member; and Edgar Leopold Layard,<sup>5</sup> also a Corresponding Member, who died in Devon, England, January 1, 1900, in his 76th year. Also the following Associates; Foster H. Brackett,<sup>6</sup> who died in Dorchester, Mass., January 9, 1900, aged 37; Francis C. Browne,<sup>7</sup> who died in Framingham, Mass., January 9, 1900, aged 70; John A. Dakin,<sup>8</sup> who died February 21, 1900, in Syracuse, N. Y., at the age of 48; Percy S. Selous,<sup>9</sup> who died in Greenville, Mich., April 7, 1900; Charles C. Marble,<sup>10</sup> who died in Chicago, September 25, 1900, aged 52; Edwin Carter, of Breckenridge, Colo.

<sup>1</sup> For an obituary notice, see Auk, XVII, p. 91, also Memorial Address in the present number.

<sup>2</sup> For an obituary notice, see *Ibid.*, p. 193, also Memorial Address in this number.

<sup>3</sup> For an obituary notice, see *Ibid.*, pp. 320-321.

<sup>4</sup> For an obituary notice, see *Ibid.*, pp. 91-92.

<sup>5</sup> For an obituary notice, see *Ibid.*, pp. 321-322.

<sup>6</sup> For an obituary notice, see *Ibid.*, p. 197.

<sup>7</sup> For an obituary notice, see *Ibid.*, pp. 194-196.

<sup>8</sup> For an obituary notice, see *Ibid.*, pp. 196-197.

<sup>9</sup> For an obituary notice, see *Ibid.*, p. 322.

<sup>10</sup> For an obituary notice, see *Ibid.*, p. 404.



The report of the Treasurer showed the finances of the Union to be in a satisfactory condition.

Dr. C. Hart Merriam was elected President; Charles B. Cory and Charles F. Batchelder, Vice-Presidents; John H. Sage, Secretary; William Dutcher, Treasurer. Frank M. Chapman, Ruthven Deane, E. W. Nelson, Witmer Stone, Drs. A. K. Fisher, Jonathan Dwight, Jr., and Thos. S. Roberts, were elected members of the Council. Dr. A. B. Meyer, of the Royal Museum, Dresden, was elected an Honorary Member, and Count E. Arrigoni Degli Oddi, University of Padua, Italy, and Walter E. Bryant, of Santa Rosa, Calif., Corresponding Members. Seventy new members were added to the list of Associates. The usual reports of Standing Committees were received.

A change in the By-Laws was proposed whereby the present class of Active Members shall be known as Fellows; the present class of Associate Members to be known as Associates, and to establish a class of membership intermediate between Fellows and Associates to be known as Members. The matter will be brought up for final action at the next Congress of the Union.

A letter was read from Miss Juliette A. Owen, of St. Joseph, Mo., an Associate Member, donating an additional \$100 to the Union. This will be added to a fund, the income of which is to be used for the advancement of the science of ornithology.

PUBLIC SESSION. FIRST DAY.—The meeting was called to order by the President, Dr. Merriam.

The first paper of the morning was a Memorial Address on the Hon. Geo. B. Sennett, an Active Member, by Dr. J. A. Allen. Mr. D. G. Elliot followed with a Memorial Address on Dr. Elliott Coues, also an Active Member, and a former President of the Union.

The reading of scientific communications began with a paper by Dr. Jonathan Dwight, Jr., on 'The Sequence of Moults and Plumages of the Laridæ (Gulls and Terns).' Remarks followed by Dr. T. S. Palmer, and the author.

Next came 'A Study of the Genus *Sturnella*,' by Mr. Frank M. Chapman. Remarks followed by the Chair, Mr. William Palmer, and the author.

The fifth title was 'The Moults of the North American Shore Birds (*Limicolæ*),' by Dr. Jonathan Dwight, Jr. Remarks followed by the Chair, and by Dr. Allen.

The opening paper of the afternoon session was by Judge John N. Clark, entitled 'Dooryard Ornithology.'

The concluding papers of the day, both illustrated by lantern slides, were as follows:

'The Season of 1900 at the Magdalen Islands; with remarks on Bird Photography,' by the Rev. H. K. Job.

'Field Notes on a few New England Birds,' by William Brewster.

SECOND DAY.—The meeting was called to order by the President, Dr. Merriam.

'The "American Ornithologists' Union" of 1840-45,' by Witmer Stone, was the first paper of the morning.

The second title was 'Notes on the Spring Migration (1900) at Scarborough, N. Y.,' by Louis Agassiz Fuertes.

The third paper was entitled 'Among the Terns at Muskeget, and on the New Jersey Coast,' by Mr. Wm. L. Baily. It was illustrated by lantern slides.

Next came an 'Exhibition of lantern slides of Birds, Birds' Nests, and Nesting Haunts, from Nature,' by Dr. Thos. S. Roberts. Remarks followed by Dr. Merriam.

The fifth paper was 'On the Value of careful Observations of Birds' Habits,' by Edward H. Forbush.

The afternoon session was devoted to the following papers — all being illustrated by lantern slides, viz.:

'Bird Studies with a Camera,' by Mr. Frank M. Chapman.

'Notes on a Nest of Massachusetts Brown Creepers,' by Dr. A. P. Chadbourne.

'Natural History of the Alaska Coast,' by Dr. C. Hart Merriam.

THIRD DAY.—The meeting was called to order by the President, Dr. Merriam.

Mr. Witmer Stone, Chairman of the Committee on Protection of North American Birds, read the report of his committee for the previous year. This was followed by Mr. William Dutcher on the 'Results of Special Protection to Gulls and Terns obtained through

the Thayer Fund.' These reports are published in this number of 'The Auk,' and will be issued as a pamphlet to be sold at a low price for general distribution.

The third title was 'The Enforcement of the Lacey Act,' by Dr. T. S. Palmer.

Resolutions were adopted thanking the authorities of Harvard University for the use of the Nash Lecture-room as a place for meeting, and for other courtesies tendered to the Union, and to the Nuttall Ornithological Club for the very cordial welcome and most generous hospitality extended to the visiting members.

Owing to want of time for their presentation in full the following papers were read by title:

'The Pterylosis of *Podargus*; with Further Notes on the Pterylography of the Caprimulgidæ,' by Hubert Lyman Clark.

'Impressions of Some Hawaiian Birds,' by H. W. Henshaw.

'A Visit to the Birthplace of Audubon,' by O. Widmann.

'Aptosochromatism. A reply to Drs. Dwight and Allen,' by Francis J. Birtwell.

'On the breeding habits of Leconte's Sparrow,' by P. B. Peabody.

'Breeding of the Cerulean Warbler near Baltimore,' by Frank C. Kirkwood.

The Union then adjourned to meet at the American Museum of Natural History, New York City, November 11, 1901.

JNO. H. SAGE,  
*Secretary.*

REPORT OF THE COMMITTEE ON THE PROTECTION OF NORTH AMERICAN BIRDS FOR  
THE YEAR 1900.

THE past year has been perhaps the most notable one in the annals of bird protection since the present Committee was established.

As was the case last year, I propose in this report to consider only the work that has come immediately before the Committee. I must, however, congratulate the Audubon Societies on the excellent work they are accomplishing, without which the more serious undertakings of this Committee could not have been carried through. The societies now exist in no less than twenty-two States of the Union, and so widely has their influence been extended that we rarely find persons to-day who have not heard of the movement for bird protection, and every proposed act of legislation now finds the way paved for its progress and willing hands extended everywhere to aid it.

The strengthening of these existing Audubon Societies and the establishment of additional organizations of this kind in our remaining States, especially in the South, cannot be too strongly encouraged. The part played by 'Bird-Lore,' and its editor, Mr. Frank M. Chapman, in furthering the work of the Audubon Societies and in maintaining a bond of union between them cannot be too strongly commended. Besides new Audubon Societies in the States of Delaware, Maryland, South Carolina, Florida and Kentucky, four established during the year, the Committee has also been informed of the organization at Buffalo, N. Y., of a similar society, 'The Bird Protective Society of America. Referring those interested in the work of the Audubon Societies to 'Bird-Lore,' where their reports appear, we will now consider the work of your Committee during the past year.

The close of the year 1899 marked a great increase in the demand for gulls, terns and other sea birds for millinery purposes, and information reached your chairman of efforts made by millinery agents at various points along our coasts to encourage collecting for the millinery trade. In one case postal cards offering a

regular scale of prices for the birds were sent to postmasters all along the Gulf Coast, with requests to place them in the hands of gunners or fishermen.

Through the agency of Dr. T. S. Palmer of the U. S. Department of Agriculture, this matter was brought to the attention of the Secretary of Agriculture, who in turn reported it to the Postmaster General, and a warning was issued in the regular postal instructions to all postmasters in the United States not to lend their aid to such trade, as it was in many States unlawful.

This matter, thanks to the public press, was well advertised throughout the country and attracted considerable attention. Shortly afterward Mr. Abbot H. Thayer, a member of the Union, communicated with your chairman, and learning that the Committee was unable to take active measures toward protecting the terns and gulls, owing to lack of funds, generously offered to raise money for this purpose. An appeal prepared by Mr. Thayer, was signed by a number of prominent members of the Union and widely published. This brought immediate response, and a substantial fund was soon at the command of your Committee. Being unable to personally attend to the details of this work your chairman enlisted the services of Mr. William Dutcher who kindly undertook the entire work and who will report on the results that have been accomplished.

Early in the year millinery activity also manifested itself in Delaware where the services of gunners were enlisted to obtain crows and blackbirds for the trade. While the existing laws did not protect these species, the danger of killing other protected birds and game was pointed out in a circular issued by your chairman, and citizens of Delaware were called upon to do what they could to prevent this outrage. These circulars were sent to every post office in the State. Mr. A. D. Poole of the Delaware Game Protective Association took an active interest in the matter and in company with your chairman visited Gov. Tunnell who heartily endorsed what had been done and assured us of his coöperation in case the laws were transgressed.

The way in which the newspapers of the country took this matter up and spread it from the Atlantic to the Pacific with more or less elaboration is an instance of the work of the Audu-

bon Societies in interesting the general public in bird protection. The Pennsylvania Railroad also lent us its aid by notifying its agents to exercise great care not to ship from the State any birds killed contrary to law, as they would thereby be liable to prosecution under the laws of Delaware.

The immediate result was the prevention of the filling of this contract for crows and blackbirds, and it does not seem likely that another effort of the same kind will be made in the near future. Furthermore, the citizens were greatly agitated over the matter of bird protection, a Delaware Audubon Society was organized, and there is promise of better laws being passed in the near future.

This agitation was the means of bringing your chairman into direct communication with Mr. Charles W. Farmer of the Millinery Merchants' Protective Association, embracing nine tenths of the leading firms in America. Mr. Farmer protested against the alleged exaggerations of the newspapers and assured your Committee that no firm would think of buying small American birds of any description.

In the course of considerable correspondence your chairman suggested that if the use of any sort of American wild bird was tabooed by the millinery trade, it would go a long way toward stopping the newspaper criticism, which would undoubtedly continue as long as any of our native birds were shot for decoration.

This resulted in the proposition from the milliners that they would refuse henceforth to deal in any American birds or foreign birds closely resembling American species, as gulls, terns, etc., reserving two seasons to dispose of stock on hand, providing that this Committee and the Audubon Societies would pledge themselves not to use their influence on behalf of legislation against the importation of foreign birds, or feathers of ostrich or domestic fowls. Messrs. Chapman and Dutcher met a Committee of the milliners and discussed the matter, after which the proposition was formally presented and published. It was unfortunately badly framed and did not clearly set forth the agreements that the milliners intended to offer, so that although adopted by a mail vote of your Committee, subject to certain alterations agreed to at the above conference, strongly advocated by the editor of 'Bird-Lore,' and favored by the directors of some of the Audubon



Societies, it was nevertheless opposed by other of the Audubon Societies and by the editor of the Audubon Department of 'Bird-Lore.' As the milliners naturally required the agreement of *all* the bird protective organizations this action stopped the negotiations. This result was much regretted by your chairman and other members of the Union who have been active in dealing with the practical side of bird protection, especially legislation. And it was regretted that the proposition could not have been presented in a more favorable form and considered more on its merits.

As it happens, however, there is great hope that we are about to obtain the same results as would have ensued from the ratification of this agreement without making any concessions.

During the last session of Congress great efforts were made by various game protective associations, headed by Mr. G. O. Shields, to force the passage of the so called Lacey Bill. This act is supplementary to the State game and bird laws and forbids shipment of illegally killed birds from one State to another, while birds coming into a State, even though killed legally, cannot be sold in that State if the law there forbids the sale of that sort of bird. The possibilities of prosecutions of millinery agents for receiving sea birds killed contrary to law in other States are easily seen. Your chairman and many members of the Committee exerted all their influence in behalf of this bill, and were ably seconded by the Audubon Societies. To the gratification of all, it became a law in May last.

Already several seizures of gulls have been made under this or State laws, most notably that of 2600 gulls and terns in the possession of Charles E. Pontier, manager for Dumont and Co., Baltimore, Md. This was accomplished through the efforts of the State Game and Fish Protective Association of Maryland, represented by Mr. Frank C. Kirkwood of the Union and other officers, with the able assistance of Dr. T. S. Palmer of the U. S. Department of Agriculture, to whom is entrusted the supervision of the provisions of the Lacey Act. These birds were sold at public auction according to State law, on condition that the purchaser keep them in his own possession.

To guard against further dealing in these goods Dr. Palmer and

your chairman have notified a number of wholesale milliners that the goods are contraband and can only be purchased at the risk of prosecution. The criminal case against Dumont & Co. is still pending. Dr. Palmer reports further: "The seizure of the birds at once attracted attention and the results are likely to be far-reaching.

"One of the largest wholesale millinery firms in Baltimore requested an official inspection of their stock and agreed to abandon the sale not only of gulls and terns but also of grebes, pelicans, herons and other birds protected by State or Federal law. I interviewed practically all the wholesale milliners in the city and without exception they took the same ground and promptly withdrew these birds from sale. Judging by the action of these dealers, I believe that the wholesale trade in native plume birds in Baltimore has practically ceased for the time being, and a beginning has been made for similar action in other States." Later, conference with wholesale dealers in Boston, New York, and Philadelphia resulted in the agreement not to purchase any more gulls, terns, herons, pelicans or grebes, so that the prospects for eliminating all American birds from the millinery trade are very bright.

The effect of the Lacey Act on the selling of imported game birds in Pennsylvania and other States where the selling of such birds is prohibited will probably require a judicial decision. Many dealers contend that the law cannot affect the sale of birds legally killed in other States. As this is exactly what the Lacey Act was intended to do, however, there is very little doubt but that it will be upheld. So far as Philadelphia is concerned, it has already resulted in a great reduction in the sale of game birds.

Beside the aggressive work described I would call attention to the valuable publications prepared by Dr. T. S. Palmer and issued by the U. S. Department of Agriculture, namely, 'A Review of Economic Ornithology in the United States,' 'A list of Organizations concerned in the Protection of Game'; 'Legislation for the Protection of Birds other than Game Birds' (a compilation of existing State laws), and 'A Compilation of State Laws governing the Sale and Transportation of Game' (the latter in connection with Mr. H. W. Olds).

These publications are of the utmost importance to all inter-

ested in bird and game preservation and cannot help but bring the various organizations into closer touch. In connection with cage birds, Mrs. Edw. Robins reports that in a conversation with one of the largest bird dealers in Philadelphia he voluntarily told her, without any idea that he was talking to one of your Committee, that his firm had recently shipped to Germany 150 Bluebirds, 300 Cardinals, and 500 Mockingbirds, and stated that all the large importers were also exporters, that this was one of the necessities of the trade. This, it seems to me, is one of the strongest arguments against the clause allowing the keeping of native cage birds which exists in the Pennsylvania law and that of many other States.

While considering cage birds another provision of the Lacey Act should be noticed; namely, the prohibiting of the importation of foreign birds and mammals unless under permit from the Department of Agriculture. This is merely a safeguard against the introduction of such a pest as the English Sparrow. This species, together with the Starling, are now absolutely forbidden entry into this country, although there is no trouble about importing other species if the proper permit is requested.

Respecting bird protection in Illinois, Mr. Ruthven Dean of your Committee, reports as follows:

"Illinois has not been idle in the past year in taking every possible step towards the protection of our game and song birds. Much credit is due to our Game Commissioner, H. W. Loveday, and his many deputies for their untiring efforts and many arrests and prosecutions. There have now been appointed throughout the State 274 wardens and deputy wardens and the results of their work will be felt in every county.

"The Commissioner states in his coming report that many of the wardens in the service are business men of means who have not accepted the positions for gain, but simply because they love the birds and desire to see them protected. The close watch kept at all railroad stations by the wardens during the past year has stopped, to a large degree, the shipping of game out of season to points within the State.

"During the year that the new law has been in effect there has been a total of 142 convictions out of 203 cases brought to trial

for the shooting or shipping of game birds out of season, and shooting and trapping song or insectivorous species. The Audubon Society, in conjunction with the Game Commissioner, has had the game laws printed on a 14 x 19 poster and mailed to the postmasters of 2500 offices in the State, with a request from the Governor to place them in a conspicuous position where they would be certain to strike the eye of the public.

"On July 23, 1900, Game Commissioner Loveday, assisted by two deputies, engaged in a novel raiding expedition in Chicago, visiting some twelve bird stores and seizing from two to three hundred caged birds, largely Mockingbirds and Cardinals. The case was not brought to trial until September, and for some unknown reason the Justice has not yet rendered his decision. We trust it will favor the prosecution, as it is a case of much importance for the future."<sup>1</sup>

Mrs. Florence Merriam Bailey has sent the following in regard to plume hunting in southern Texas:

"While working in Texas last spring Mr. Bailey and I spent two weeks in the neighborhood of Corpus Christi. In talking with the settlers we gradually discovered that we were in the heart of a plume hunting district. The discovery was gradual, as the people seemed afraid to talk to us at first, apparently on account of a rumor of some prohibitory legislation in the North. As an old bird hunter said afterwards, the report was that 'they were n't going to buy any more birds — there was some law about it.'

"So absolutely is the southern plume hunting business controlled by the northern market that this rumor had held up the trade, and it was only as time went by without its confirmation that the hunters prepared to start out again.

"As they watched our work the people came to talk quite freely to us and we learned a good deal about the number of birds killed, the principal kinds taken, and the prices paid for them. One man boasted — moved perhaps by the small number of birds we found it important to shoot — that he and another plume hunter had, in 1889, shot 816 birds in five days, and 1,023 in six to seven days.

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<sup>1</sup> Since this was put in type, Mr. Dean has informed that the case was decided in favor of the Game Commissioner, and the dealer fined \$100.

The 1,023, he said, were mainly Terns, Yellow-legs, Avocets, and Willets. Another old hunter, watching the skinning, assured us that he knew a man who could skin 600 birds in a day! The process he said consisted in ripping off the skin and stuffing in a big wad of cotton. The principal birds taken, he told us, were water birds, and he added that any white-breasted birds would be bought by the dealers. We learned, incidentally, that strikingly colored land birds were also marketed, among them Jackdaws, Vermilion Flycatchers, and Nonpariels.

"Of the water birds sold the old hunter named over the Least Tern, the Black Tern, Wilson's Tern, the 'big White Gull' as he called it, the Black Skimmer, Great Blue Heron, Long-billed Curlew, Willet, and Avocet.

"In quoting the market prices he said the great Blue Heron brought 40 cents; the Jackdaw, 9 cents; big white gulls, 18 cents; wings of the Long-billed Curlew, 7 cents; the Black Tern, 5 cents; Wilson's Tern, 18 cents; and the Least Tern, 20 cents, its price having been 25 cents before the report came that they were not going to buy any more birds.

" 'Eggers,' as well as plume hunters, abounded in the neighborhood. One man had an egg collector's check-list which he used.

"The eggers and millinery men together had almost driven the Pelicans from the neighborhood. One thousand Pelicans had formerly bred on Dimmitt Island, we were told, but although we went over it carefully in the height of the breeding season, not a nest was to be found on the island, and we saw only six Pelicans in the neighborhood, and those flying over, a pitiful band contrasted with the hordes which had been driven from their homes.

"A million birds of various kinds had formerly nested on Bird Island, some miles below Dimmitt, we were told, and as these are not wholly exterminated, and the State law of Texas in that section protects gulls, terns, herons, pelicans and a goodly number of land birds, it is to be hoped that the Lacey bill may still save some of the birds on the island by stopping the millinery trade in the North. For it is upon the northern market that bird protectors should center their efforts. The plume hunters themselves, as we found them, are mainly poor settlers in a country where it is hard to make a living, and they shoot the birds merely to add a little to the meagre



support they can give their families. Moreover, they generally sell through middlemen who reap the real profits of the trade. It would be both cruel and useless to prosecute this class of hunters. The middlemen and the rich millinery firms are the ones who should be made to pay the penalty for their disregard of the laws."

From other members of the Committee brief reports, generally of an encouraging nature, have been received, and in closing I would refer to the large amount of correspondence that has been necessitated in the course of the year's work, especially by Dr. T. S. Palmer and your chairman. The answering of innumerable inquiries concerning legislation and methods for bird protection; the calls for coöperation in assisting in the passage of bird laws, and the warnings sent out to all who advertise game, birds, or millinery material, have all assisted in spreading the interest in bird and game protection; and I think we may feel well satisfied with the results of the most momentous year's work that we have yet accomplished.

WITMER STONE,  
*Chairman.*

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#### RESULTS OF SPECIAL PROTECTION TO GULLS AND TERNs OBTAINED THROUGH THE THAYER FUND.

IN beginning this report on the special protection work of the past year, great credit should be given to our fellow-member, Abbott H. Thayer, for the very important part contributed by him to the result. The thought of this special protection was his alone, and his unflagging and unaided energy and tact, secured the sinews of war, a fund of over \$1400, with which wardens were paid; without this fund, nothing could have been accomplished. Where he should have received encouragement, *i. e.*, among the ornithologists, he met with discouragement, for he was told that it was impossible to raise any funds for the work. By his personal courage and faith, he accomplished what others said could not be done.



The primary object of the work was to enforce the laws for the protection of the birds that breed upon the marshes and islands along the middle Atlantic coast, and more particularly the Gulls and Terns. The territory it was purposed to cover was that portion of Virginia lying north of Cape Charles at the mouth of Chesapeake Bay, comprising the counties of Northampton and Accomack, all of Maryland bordering on Chincoteague Bay, the coast line of New Jersey, the two colonies of Terns in New York, and the coast of Maine. The Massachusetts tern colonies have been very thoroughly protected during the past season, as heretofore, by our member, Mr. George H. Mackay.

As the territory to be protected was, with the exception of Long Island, N. Y., entirely new to the Committee, its first effort was to locate the places where the colonies of gulls and terns still existed. The Committee not having the time at its disposal, nor caring to spend any portion of the fund for preliminary visits to the several States, was forced to obtain the necessary information entirely by correspondence.

As this report will cover protection work in five States, each with different laws, it is deemed best to treat each one separately.

#### VIRGINIA.

At intervals of a few miles on the Atlantic coast, the General Government has located life-saving establishments. During the summer months, when the breeding birds most need protection, the crews of the stations are off duty, the Captain alone remaining in charge of the house and apparatus. In Virginia the breeding grounds are located near these stations and the Committee was fortunate enough to interest and engage the services of eight of the Captains to act as wardens. That they very effectually protected the birds breeding on the marshes and beaches near them will appear later.

The bird laws of Virginia consist of a series of special county acts, and as the protection work was entirely confined to the counties of Northampton and Accomack, cognizance was taken of only the local statutes for the said counties, which are as follows:

"It shall be unlawful for any person to shoot, or in any manner

kill or destroy the bird known as the gull or striker, before the first day of September, or take its eggs later in the season than the twentieth of July."

As it was useless to attempt to protect either the birds or eggs until the close season commenced, the wardens were, prior to that date, fully informed of the exact text of the law and were instructed to absolutely enforce its provisions from the first to the last day of the close season on all the birds breeding or living near their stations. Just prior to the end of the close season, our member, Mr. Frank C. Kirkwood, volunteered to make a trip to each of the stations in Virginia and the one in Maryland, which he did at much personal discomfort. The trip lasted from August 20 to 29, inclusive, and was made in a twenty-five foot sharpie, a shallow, flat-bottomed sail boat. When Mr. Kirkwood was fortunate enough to reach a life-saving station at night he was comfortably housed, but on several occasions the night was spent at anchor, his couch being the bottom of the boat and his covering a portion of the sail or the sky. Sleep was almost impossible, for if he retired under the sail he was almost suffocated with the heat, and when he threw it off, life was unendurable owing to the swarms of mosquitoes. High and head winds, fog, rain, mosquitoes, and on one occasion a temperature of  $119^{\circ}$  in the sun at 7 A. M., were some of the difficulties Mr. Kirkwood had to overcome during his trip, and on his return to his home he was laid up with a sharp attack of malaria as the result of his fatigue and exposure. Mr. Kirkwood reported that he was very well pleased with the results of the work done by the eight wardens, that he, in the main, found them interested, and that the reports they severally made to him could be depended upon.

On his return Mr. Kirkwood submitted a long written report from which I quote the following interesting details:

*Isaacs Island.*

Captain Hitchens gave me the following estimates:

Common Tern (*Sterna hirundo*).—Thousands bred, about twice as many as last year.

Black Skimmer (*Rynchops nigra*).—2,000 to 3,000.

Black-headed Gull (*Larus atricilla*).—A few. Used to be a great breeding place for them, but none have bred of late years.

*Smiths Island.*

American Oyster-catcher (*Hæmatopus palliatus*).—6 pairs. Only two pairs last year.

Wilson's Plover (*Ægialitis wilsonia*).—Some.

Willet (*Symphemia semipalmata*).—8-10 pairs.

Clapper Rail (*Rallus crepitans*).—1,000 or more.

*North end of Smiths Island.*

Common Tern (*Sterna hirundo*). 50-100,—first in 10 years.

Laughing Gull (*Larus atricilla*). 100-150; none last year.

American Oyster-catcher (*Hæmatopus palliatus*). 3 pairs; 2 pairs last year.

Wilson's Plover (*Ægialitis wilsonia*). A few.

Clapper Rail (*Rallus crepitans*). Numerous in marshes all along to Cobb's Island.

Willet (*Symphemia semipalmata*). A few all along the island; 6 pairs on the south end.

Royal Tern (*Sterna maxima*). About 12 pairs had remained all summer at a point about two miles south of the north end of the island but he had not seen any eggs or young.

Gull-billed Tern (*Gelochelidon nilotica*). A few.

Capt. Hitchens is well informed regarding birds, and his conversation impressed me strongly that he was thoroughly in earnest and would do all he could to protect the breeding birds.

*Cobbs Island.*

Capt. Andrews estimated the numbers of birds breeding as follows:

Common Tern (*Sterna hirundo*).—About 200.

Gull-billed Tern (*Gelochelidon nilotica*).—About 1,000.

Laughing Gull (*Larus atricilla*).—About 1,000.

Black Skimmer (*Rynchops nigra*).—About 4,000.

Willet (*Symphemia semipalmata*).—Only 2 pairs.

Wilson's Plover (*Ægialitis wilsonia*).—Only 2 pairs.

American Oyster-catcher (*Hæmatopus palliatus*).—About 12 pairs.

At the time of my visit only the Black Skimmers were to be found at their nesting places, two in number. About two thousand five hundred birds were found at the southern end. A few young birds barely able to fly were seen. The second nesting place was estimated to have about one thousand five hundred birds; here also a few young were found in all stages up to those ready to fly, while quite a number of young birds were seen flying with the adults, showing that while this more northern breeding place may have been robbed some early in the season, the other had evidently escaped. Altogether the evidence fairly showed that the birds had been protected. As Cobbs Island is out of the track of the summer visitor and rather difficult to get to, I see no reason why the birds should not again breed numerous here. On my way north I stopped on one of the little marshes marked on the chart and counted thirty-nine Laughing Gull nests, and as immature gulls and terns were seen flying round the island the prospects seem fair. Capt. Andrews says he stopped two or three gunning parties that came early in the season and that none came afterwards.

*Hog Island.*

Capt. Johnson reported that he had protected Laughing Gulls (*Larus atricilla*), Terns or Strikers (*Sterna hirundo et antillarum*), Willet (*Symphemia semipalmata*), and Clapper Rails (*Rallus crepitans*). The numbers were hard to estimate, but there were a great many of all the species, and that the increase during the season had been large. He feels sure that there has been a less number of birds and eggs destroyed this summer than for a number of years past. One party had prepared to shoot Laughing Gulls for market but Capt. Johnson notified the Commonwealth and the plume hunter received a letter that stopped him at once. There were no further violations of the law. I believe Capt. Johnson to be entirely in sympathy with the movement to protect the birds.

*Paramores Beach.*

Capt. Richardson is a man thoroughly in earnest and very conscientious, and I am confident that he can be relied upon; he

reports having protected the following birds: Laughing Gulls (*Larus atricilla*), Clapper Rails or Marsh Hens (*Rallus crepitans*), Willet (*Symphemia semipalmata*), and Terns or Big and Little Strikers (*Sterna hirundo et antillarum*). About a thousand of each species arrived in the spring. He stated with evident pleasure that he had not seen a bird killed or egg taken unlawfully during the season. He also reports that there is a growing sentiment among the resident boatmen that the birds must have protection, and he adds: "Personally, I am a great lover of birds and the seasons would lose their charm for me were they gone."

*Wachapreague, Cedar Island.*

Capt. Savage expressed himself as entirely in accord with our objects and stated that no shooting had been done near his station. The species that breed there are Laughing Gulls (*Larus atricilla*), Clapper Rails (*Rallus crepitans*), Black Skimmers or Flood Gulls (*Rynchops nigra*), Terns or Strikers (*Sterna hirundo*), and Willet (*Symphemia semipalmata*). He states that every one concedes that all the species mentioned are much more plentiful than they have been for some years, hence we must conclude that the efforts that are being made for their protection have resulted in much good.

*Metomkin Island.*

Capt. Taylor was at first afraid to act on account of his being a United States officer, but after a long conversation he decided that we were not asking anything that would conflict with his duties, and that he is now willing to inform all parties of the law and report all infringements. The only birds breeding near his station are the Clapper Rail (*Rallus crepitans*), and Willet (*Symphemia semipalmata*).

*Wollops Island.*

Capt. Whealton was thoroughly in sympathy with our movement and stated that he had stopped all summer shooting from a club

house close to his station, and in the early part of the season had stopped two negroes who were egging on the marsh, and that since then the birds had not been troubled so far as he knew.

The species protected were Clapper Rails or Mud Hens (*Rallus crepitans*), Willet (*Symphemia semipalmata*), Laughing or Black-headed Gulls (*Larus atricilla*), Terns or Big and Little Strikers (*Sterna hirundo et antillarum*), and it is probable that the increase in numbers was very material.

The Committee feel very much encouraged with the results obtained by the past season's efforts and especially with the very earnest and conscientious labors performed by the wardens at their respective stations. A movement has already been started to have the American Ornithologists' Union law passed in Virginia so that the birds will be protected at all seasons of the year.

#### MARYLAND.

The Maryland law is very satisfactory; the portion referring to the gulls and terns is as follows:

"No person shall, in this State, at any time shoot or in any manner catch or kill, expose for sale, sell or buy, or have in possession, alive or dead, any herring gull or mackerel gull, or gull of any description, under a penalty of not less than one (\$1.00) dollar nor more than five (\$5.00) dollars, for each such bird, so shot, caught, killed, exposed for sale, sold, bought or had in possession; and no person shall under like penalty, have in his or her possession, offer for sale or wear, the skins, plumage, wings, or feathers of any of the birds, the catching or killing of which is prohibited by this section. It is also unlawful to molest or destroy the nests of any of the aforesaid birds, under a penalty of not more than twenty-five (\$25.00) dollars for each offense."

The only place in Maryland where a colony was found was on Robbins Marshes, Bacon Island, and Egg Beaches, near North Beach. Mr. Simeon B. Harman, an old resident, was appointed warden. The Common Tern or Mackerel Gull (*Sterna hirundo*) was the only species protected and the colony was not a large one. Mr. Harman reports that only once was he called upon to



prevent shooting, and three times, egging. He also reports that "the Protective Association is a grand success and I can already see as the result of four months protection that the birds are fifty per cent more numerous this fall than last year."

#### NEW JERSEY.

Our member Mr. W. L. Baily had charge of the work done in New Jersey. During the season he made a number of trips, first to ascertain where colonies of birds bred, later to oversee the work of the two wardens appointed, and, finally, to observe the results of the season's work. He furnished a detailed report from which has been extracted the following interesting facts: The breeding grounds were in Cape May County, from Cape May to Ocean City, a coast line of about thirty-five miles. The species primarily protected were Laughing Gulls (*Larus atricilla*) and Common Terns (*Sterna hirundo*), although the other breeding birds, such as Osprey (*Pandion haliaëtus carolinensis*), Clapper Rails (*Rallus crepitans*), etc., were included.

On Blue Fish Meadows, lower end of Seven Mile Beach, he found about two hundred and fifty pairs of Laughing Gulls, and on Poor House Flats, a mile further north, about thirty pairs. June 30, he visited the smaller colony and found about twenty young on the wing and most of the nests with from two to three eggs each nearly ready to hatch. On Blue Fish Meadows three colonies, about one hundred yards apart, were found. As they were approached, about five hundred old birds mounted into the air together with about one hundred young birds. The males seemed to be sitting together on the extensive tracts of 'crash' and arose first, followed by the females which were flushed from the nests, one at a time, after the males sounded the alarm. The nests, about two hundred in number, were all undisturbed, the eggs in many cases being just hatching. Among the gulls' nests were scattered many nests of Clapper Rails, probably for the protection given them from Crows. At 8 P. M., just at dusk, the males all flew out to sea in a straight line, high up in the air. The warden, Capt. Charles Wright, said that this was a regular habit, and that the birds did

not return until dawn. The nests were scattered along the banks of small creeks in the high grass and were substantially built on the 'crash.' The increase was probably seven or eight hundred birds from the two colonies, as there were two broods raised, although the first one was not large, owing to two very heavy storms which occurred in the latter part of May, when many eggs were washed away or destroyed.

A colony of nine pairs of the Common Tern were found on the upper end of Gull Island, in Great Sound, back of Seven Mile Beach, and fourteen pairs on Peck's Beach, fifteen miles north of Blue Fish meadows. He visited these colonies on June 30 and found twenty-three eggs in the first locality, one ready to hatch. The second colony was visited July 2 where forty-one eggs were found, one nest containing five eggs. On July 16 both colonies were visited again, and it was found that most of the eggs had hatched; eight young were found that were a day or two old.

In conclusion, it is believed that we have accomplished wonders with the Laughing Gulls, as fully one thousand young have been raised, the first brood flying about June 30 and the second about August 22, when young were still seen that could not fly. The increase of terns was small, as the colonies did not exceed fifty pairs of old birds.

The two wardens have done excellent work in posting the warning cards in stores, boat landings, gunners' resorts and railway stations. The posters have kept many persons away from the breeding grounds.

The bird laws of New Jersey are very unsatisfactory, protection to gulls and terns being given only from May 1 to September 1. The Audubon Society of New Jersey could not do a better or more important work than to have the American Ornithologists' Union law enacted in their State.

#### CONNECTICUT.

Mr. James Haynes Hill reports on the Terns of Connecticut, Fishers Island, N. Y., and Long Island Sound, as follows, his report being here given in full.

"Starting at Goose Island, between Guilford and Faulkners Island, the point farthest west from which I have received information, I regret to say that the Goose Island Colony, about which you made special inquiry, and which was the largest colony of Roseate Terns (*Sterna dougalli*), about five hundred pairs, on the Connecticut coast, is now a thing of the past. Some years ago a house was built on Goose Island, and having been inhabited, the terns were dispersed, and probably distributed themselves over the other islands in the Sound, nesting with colonies of Wilson's Terns (*Sterna hirundo*).

"Following the coast line eastward, the next island on which the terns nested is Waterford Island, a small, low, sandy islet near the east shore of Niantic Bay. Here I observed, on June 20, eight pairs of Wilson's (*Sterna hirundo*) nesting (3 nests with 3 eggs, 5 with 2), and they successfully hatched and brought up their broods, as on my subsequent visit on July 25 I saw fourteen young. Still traveling eastward one comes to Two Tree Island, about one mile from Millstone Point. It is a small, rocky, sandy island, where I found on June 20 eleven pairs of Wilson's Terns nesting (3 nests with 3 eggs, 5 with 2, 4 with 1) this year. Mr. Philip J. McCook, an Associate Member of the Union, whose summer home is on Niantic Bay, has also observed the nesting birds on both islands.

"Following the shore until you arrive at Noank, there is a low sandy island called Liddy's Island, where on June 18 I found seven pairs of birds nesting (2 nests with 3 eggs, 4 with 2, 1 with 1). On my visit July 4 I could see only five young, and think the birds must have been disturbed.

"These small colonies of Wilson's Terns are the only ones that I know of nesting in Connecticut waters; I have looked, and have inquired about the beaches, and find no terns nesting on the mainland, save a colony of Wilson's, about eighty birds, noted by J. B. Canfield of Bridgeport, Associate Member of the Union, and Clarence H. Watrous of Chester, Conn., to whom I am indebted for this important information. There may be an island or two to the eastward or westward of Guilford where possibly some terns may nest, but I have no way of obtaining present information about them; possibly some other members of the

Union may have noted nesting birds. The islets I have mentioned on the Connecticut shore were not used as nesting places, as far as I have observed, prior to the scattering of the colony at Great Gull Island. Few are aware that they are now so used, and it may be owing to this fact that they are not greatly molested.

"Unfortunately there is no Connecticut law protecting gulls and terns, as they do not come under the head of song or insectivorous or game birds. It is our purpose to send in a petition to put gulls, terns and ospreys in the protected list at the next session of the legislature.

"NEW YORK.

"At the eastern end of Fishers Island, about two or three miles distant from the Connecticut shore is Wicopesset, a small, sandy, rocky island. Here a colony of about three hundred Wilson's and a few Roseate Terns nest. With this colony I noticed six or seven Laughing Gulls, but they have never been known to nest on this island as far as my observations extend. This island is about one half mile from the eastern point of Fishers Island, and the waters about it are usually quite boisterous, owing to the strong tides; being exposed to the ocean, it is quite difficult to reach and protect.

"On June 18 I found six sets of 3 eggs, 22 of 2, 17 of 1, and indications were that more birds intended nesting. Unfortunately I was unable to make a landing on my visit to this island July 4, on account of the rough weather, but we are under the impression that at least one hundred or one hundred and twenty-five young were successfully raised in spite of the depredations of the egg thieves. Two warning notices were put up on this island on the first of June. It was impossible to make any provision for protecting the birds on this island this year, as its area does not permit a camp without disturbing the birds, and the nearest house is two miles distant. If this island, though limited in area, could be fully protected, it would be one of the best breeding grounds on the Sound. Perhaps a person tenting on East Point with a boat handy could give the desired protection.

"On the eastern shore is a small, rocky island near East Harbor, called by the natives Little Pine Island. Here there were, on June 18, five pairs of Terns nesting (2 nests with 3 eggs, 3 with 2); all were hatched. Further to the westward one finds Flat Hammock, a low, sandy, shingly, crescent-shaped island near the South Dumpling, and about three quarters of a mile from North Dumpling Light, kept by Capt. J. T. Fowler, and a little over a mile from Fishers Island. Flat Hammock is the largest breeding ground of the terns on Fishers Island Sound. On June 24, Capt. Fowler counted 783 eggs in singles, twos and threes. On June 27, I went over and recounted, to verify the number, and found 92 nests with 3 eggs, 213 with 2, 27 with 1, 1 with 4, and one white egg, making in all 734; and we think we may have missed quite a number. We noted 14 or 15 young, and many eggs were 'pipped,' in all representing a colony of 700 birds. Notices were also put up on this island early in June, and I engaged Capt. Fowler to become the guardian of the terns. With protection for one month, from June 15 to July 15, the terns did well and we estimated the number of birds hatched to be between four and five hundred, mostly Wilson's. This is a larger number than were ever before successfully raised. We note that between the first of June and July is the time when the eggers, boating parties and summer boarders at Fishers Island commit most of their depredations on the poor defenseless terns. On two or three windy days, it was impossible for Capt. Fowler to reach the island, and quite a number of eggs were taken by the aforesaid, navigating larger craft. On the whole, the partial protection given the terns, shows what could be accomplished if full protection were afforded the birds, as they have no enemies save man. I would also add that the number of nesting birds on these two islands increased from one or two dozen pairs to between six and seven hundred birds in 1897, and without any doubt they were a portion of the great colony of terns which left Great Gull Island that year.

"I am of the opinion that if, another season, some one were located on South Dumpling, the birds would receive better protection, as it is only about two or three minutes row from there to the Flat Hammock, and even row boats could be



easily seen approaching the island. Flat Hammock and Wicopesset birds should certainly receive full protection, being the two largest colonies on Long Island Sound except those on Gardiners Island.

"In June, 1899, the Terns of both Wicopesset and Flat Hammock were persecuted by plume hunters from Long Island. Andrew E. Garde, an Associate Member of our Union, who went to the island, ascertained the true state of affairs. He found several dead terns that had been wounded and had died on Flat Hammock, and I was afraid they had left the locality altogether; but on July 17, I received information through Mr. Ray, that a large colony of terns was nesting on South Beach on Fishers Island, and another at Barleyfield, Cove Beach, on the same island. I was overjoyed and immediately went over and investigated and found large numbers of nesting birds on both beaches.

"The shooting on this island is leased to the Fishers Island Sportsman's Club, and the gamekeeper of the club guards the game faithfully. As there is no shooting allowed on the island save by the Club, the plume hunters did not dare follow the terns to their new nesting places. The terns are intelligent enough to know that there is a place of refuge in case of need.

"In the breeding season of 1900 the terns went back to their old breeding grounds at Flat Hammock and Wicopesset.

"In regard to Plum Island, as there is a garrison there in care of the Government coast defense works, on which work still continues, the birds have been driven away from their old nesting place. This information is derived from Capt. Clark, who lives on the island, and Capt. Jas. F. Smith of the steamer 'Manhanset,' which touches daily at the island.

"Great Gull Island, the old and famous breeding place of the terns, owing to the garrison and buildings on it, is still totally deserted by the terns; only a few essayed to use one of the extreme points for nesting purposes, but as the soldiers gave them a warm reception they sought safer and more peaceful quarters.

"I regret to report that the plume hunters have also relentlessly followed the terns, and have shot them on their feeding-grounds, the waters of the 'Race,' the waterway between Great



Gull Island and Race Rock Lighthouse, leading from Long Island Sound to the ocean; here there are large numbers of schools of bluefish, mackerel and menhaden, as well as of the smaller fry, smelts and capelin. Some of the fishermen from Long Island and Connecticut, not content with a good catch of bluefish, the schools of which are indicated by the darting and hovering terns, seek to add to their sport and to enrich their own and the plume dealers' pockets by shooting their feathered benefactors, which they sell at ten cents each. Such destruction should be stopped, or the terns will be exterminated, as the birds are killed while caring for their young.

"Robbed of their eggs and shot by plume hunters on their breeding and feeding grounds at the north, shot all along their line of migration, slaughtered in their winter homes in southern waters, the thought of it all makes one heartsick, and the wonder is that any terns are left.

"You may count on me as a champion of the terns, gulls and ospreys in this locality, and I shall use every means in my power to protect them."

The other colonies of Terns left in New York State are located on Gardiners Island, and are doubtless a portion of the colony which was driven from Great Gull Island when that place was occupied by the Government as the site for one of the new fortifications.

This Gardiners Island colony divided into two parts, one locating at the north and the other at the south end of the island. Two wardens were employed, as the colonies are quite large and some distance apart. Capt. C. W. Rackett looked after the north colony, and reports that early in the season two parties attempted to take eggs, and succeeded in getting about fifty before he could prevent them. He warned them that arrest would follow any further attempt at eggging, after which he was not troubled by any further efforts to disturb the birds. He estimates that at the end of the season there were at least two thousand or more birds in the colony. He also states that the terns or, as he calls them, Blue Fish Gulls, are of the greatest value to the fishermen when they are looking for school-fish, such as bluefish, weak fish, bonita, etc. These predatory fish are chasing the small fry which they drive to the surface.

The gulls hover over the spot to feed on the small fish, thus showing the fishermen where the schools of food fish are.

The south colony was cared for by Capt. H. S. Miller, who reports that a few parties came to egg, but he informed them of the law, and that the American Ornithologists' Union would prosecute any person or persons who infringed it. Subsequently he had no trouble with poachers. He estimates that the colony contained more than two thousand birds at the end of the season, Sept. 20, when the southward migration commenced.

The law in New York is the same as in New Jersey; terns being classed with "web-footed wild fowl," which are only protected from May 1 to September 30.

#### MAINE.

The coast of Maine was considered by the Committee as the most important in the special field to be worked, for the reason that it was supposed to have suffered less from the destructive work of the feather hunters than any other portion of the coast, except perhaps for the preceding twelve months. Rumors that large numbers of gulls (*Larus argentatus smithsonianus*) had been shot there during the season of 1899 had come to our notice, but it was thought that some large colonies still existed, and an investigation proved this to be a fact. Scattered along this beautiful and picturesque coast may still be found large numbers of both terns (*Sterna hirundo et paradisæa*) and gulls (*L. a. smithsonianus*) which, if protected, will in a few years resume their former abundance; but no measure of protection that can be given to the birds, even by paid and faithful wardens, will be sufficient if the citizens of Maine do not insist upon the immediate passage of a thoroughly effective law. The present statute is lamentably deficient inasmuch as it does not protect any species of gulls in the slightest degree. Terns, on the other hand, are protected by a late act. The Committee, when it undertook to protect the gulls, was confronted with the lack of a statute to aid them, and were therefore compelled to ascertain who were the owners in fee of the various islands on which the colonies were located. These ownerships were ascertained through the medium of lawyers and tax commis-

sioners. The two largest gull colonies are located on No-mans-land and Great and Little Duck Islands. The first two islands are owned by citizens of Maine, and in each instance the owners were secured as wardens. By applying the law against trespass, the Committee was enabled to absolutely protect the gulls breeding on these islands during the past season. Little Duck Island is owned by a resident of Brooklyn, N. Y., Mr. A. B. Richardson, who very gladly gave the Committee a full power of attorney to act for him after he was informed of the nature of our efforts. Mr. Driscoll, the owner and warden of Great Duck Island, was given authority to prevent trespass on the adjoining island, Little Duck. Seven paid wardens were employed in the State, and in addition three light-keepers volunteered their services, with the consent of the Lighthouse Board at Washington, D. C.

Mr. J. Merton Swain, a member of the American Ornithologists' Union, who resides in Portland and who is particularly well informed regarding the birds of his vicinity, very kindly relieved the Committee of all details of work in his locality.

In Casco Bay there are only two colonies of terns left, which breed on Bluff and Stratton Islands. These were cared for by Capt. George E. Cushman who was regularly appointed a warden by the Game Commissioners of Maine, his salary being paid from the Thayer fund. He rendered excellent service, and reports that about five hundred birds arrived on May 25 and that the colony, he should judge, doubled itself during the season ending September 20; he only had occasion to arrest one man who had shot and had in his possession eight birds; he was convicted and paid his fine into the State Treasury. On another occasion he prevented shooting, and he also feels confident that no eggs were taken. Warning notices were supplied by the Committee and were posted at this breeding ground and the villages adjacent. This was also done along the whole coast, some hundreds of large posters being distributed in this manner.

Mr. H. L. Spinney of the Sequins Island Lighthouse, at the mouth of the Kennebec River, states that the extermination of the terns of Sagadahoc County was completed in 1896. He writes: "I am much gratified to note during the past season the obvious results of the protection now being given. During a number of

days in August I noticed more terns about the mouth of the river and the adjacent shores than I had seen for four years past. It gave me much satisfaction, and I hope that they may soon again locate on their old breeding grounds in this locality."

Captain Geo. D. Pottle, Keeper of the Franklin Island Lighthouse, protected the terns on three small islands near him, *viz.*, Eastern and Western Egg Rock and Shark Rock; he estimates that at the end of the season there was an increase of one thousand pairs in the three colonies. He reports trouble with only one party who was after birds and he was prevented from getting any by the vigilance of Mr. Pottle. On ten occasions persons were prevented from taking or destroying the eggs; he states that the people are about evenly divided in sentiment as to whether the birds should be protected or not. Some persons believe that all wild things are given to man to be used or abused as the individual sees fit. The Committee finds this view largely obtains along the whole coast, although the agitation during the past few years regarding bird protection is gradually developing a change of sentiment.

About twenty miles south of Rockland lies a small rocky islet known as Matinicus Rock. For ages past this has been an ideal home for sea birds. The only other occupants of this rock are the lighthouse keepers and their families. The writer of this report visited this rock in July and found in Capt. James E. Hall a warm friend of the birds. The whole island being a government reservation, the head keeper of the light has authority to prevent any persons from disturbing the birds breeding there. From 500 to 700 pairs of terns were found, quite a large number of Spotted Sandpipers (*Actitis macularia*), about 75 pairs of Black Guillemots (*Cepphus grylle*), and two pairs of Puffins (*Fratercula arctica*). This island is a titanic mass of granite blocks, the south side being very precipitous. Even during the most quiet weather it is extremely difficult to land upon and thus will always be a home for sea birds. At the date of the writer's visit, July 19, nearly all of the young terns were out of the egg, only two nests with eggs being found. The young birds were in all stages from the downy chick to those able to fly a few feet, the majority, however, being able to accompany the old birds in

flight. The young birds that could not fly well were extremely restless and would not permit a very near approach, so it was almost impossible to get a good photograph of them. They could run rapidly and therefore it was necessary to take instantaneous camera shots at them. Hundreds of old birds were in the air over the head of the writer, screaming their displeasure at his intrusion and giving warning to the young birds that were hidden in the scant herbage or among the boulders. While the parent birds were uttering the warning cry the young would not move. Large numbers of the old birds were carrying in their bills small fish, not over one or two inches long, of a bright silvery color.

Penobscot Bay is an immense sheet of water dotted with thousands of rocky islands varying in size from a ledge only exposed at low tide to islands containing some thousands of well timbered acres. There are numerous small colonies of terns scattered about on the smaller islands and ledges. The largest of these colonies of terns were found on Trumpet, Ship, Barge, Lower Mark and Green Islands and Saddle Back Ledge. These colonies vary in size from two hundred pairs each on Trumpet and Ship Islands down to a few pairs on the others. None of these islands were located so that it was possible to afford them any special protection, as they are too far apart for one warden to oversee and too far from the nearest inhabited islands. On Trumpet Island evidences were seen showing that a party had visited the place and had enjoyed fried terns' eggs or a tern's egg omelet. This island was a low, flat, grass-covered mound with a wide margin of sand and large cobble. Nests were found on the sandy beach above the normal high tide mark and also on the grassy upland. At the date of the visit, July 4, no young birds were found in any stage, probably because all the first clutches of eggs had been taken. It was noticed also that all these unprotected birds were much wilder than the terns on Matinicus Rock where they are practically undisturbed. On Green Island a young tern was found July 9, on the cobble, which beautifully illustrated protective coloration. It was almost stepped upon before it was seen, and during the whole time that a tripod camera was being set up, moved about, focused and plates exposed from two different positions, it did not move even so



much as an eyelid. Three persons were close by watching the young bird and overhead was the parent tern warning the young one not to move.

At the mouth of Narraguagus Bay on Douglass Island, a colony of terns numbering some two thousand was protected by Charles Huckins. He reports that he experienced no trouble whatever during the season and that the normal increase in the colony took place. The island was well posted and the notices caused a number of persons to apply to Mr. Huckins to ascertain the exact text of the law.

The only other colony of terns protected was a small one on Libby Island, at the mouth of Machias Bay. This was under the care of warden Capt. M. W. Ackley of Cutler. This island having a lighthouse upon it makes it a very easy one to protect.

The Committee believes that it is perfectly feasible and entirely possible for terns on the coast of Maine to become as abundant as formerly. The present law protects them, and should your Committee be continued, it is intended to enforce the law by paid wardens, and also to endeavor to enlist the sympathies and activities of citizens of Maine, especially those resident along the coast, in the preservation of the beautiful and graceful sea swallows that add so much to the charm of the littoral scenery.

Herring Gulls are probably more numerous than terns on the Maine coast although many more gulls than terns were shot during the season of 1899. The writer had a long interview with an Indian, a member of the Quoddy tribe, who stated that not less than ten thousand were killed last year; he said that the gulls were shot entirely for millinery purposes and that they were not all the big white gulls (*L. argentatus smithsonianus*), but some were smaller. These were probably Ring-bills (*Larus delawarensis*), Kittiwakes (*Rissa tridactyla*), and Bonaparte's (*Larus philadelphia*), that were secured during migration; he was asked particularly whether many of the smallest white gulls (terns) were shot and he replied "No," because they did not bring so large a price. He informed the writer that purchasing agents from New York and Boston millinery firms visited the Maine coast in 1899 to secure gull-plumage. The competition between these agents was so keen that the price which started at four dollars per dozen soon rose to



twelve dollars per dozen. It requires an average of four large gulls to make a dozen pieces, which allows for waste caused by dirt, blood and badly shot birds. Two wings are counted as one piece, the back another, and a strip on each side of the breast bone, from the neck to the under tail-coverts, as two more; a perfectly clean bird thus making four commercial 'pieces' in the millinery trade. The Indian also stated the best time to secure them was while the old birds were on the nesting ground, as they were then in finer plumage, and it was easier to get them. They were secured in various ways, some by shooting, although this was the least desirable, as it necessitated washing the skin to cleanse it from blood and dirt; further, when shooting many birds fell in the water, which was undesirable as it reduced the value of the skin. The favorite way was to snare the birds on or near the nests, and also to set a trawl line with hooks baited with fish. This line was set on the land in a clean grassy place, so the birds when caught were not soiled. A live decoy gull was sometimes secured to the top of a small spruce on an island where the birds were in the habit of congregating and many were secured by shooting those that came to the decoy. This Indian was a mason by trade, but he stated that he could make so much more money shooting gulls, and that it was so much pleasanter work, that he abandoned his trade to become a gull hunter. He was asked whether the Indians would continue to shoot gulls this season and he replied that there did not seem to be such an active demand for them now, and that there had been a law passed that prevented their being taken on the breeding grounds. He probably mistook the work done by your Committee for a new law. The Indians were in the habit of going in parties of half a dozen or less and camping on or near the breeding grounds while in pursuit of the gulls, locating at all the different places where the gulls nested.

Your Committee found twelve colonies of Herring Gulls, and all were protected. The most eastern one was on Old Man Island, at the entrance to Machias Bay. This island is a precipitous mass of rock, rising from the ocean without the slightest semblance of a beach, and is covered with a growth of small spruce trees. About two hundred and fifty pairs of gulls nested there and were cared for by Capt. Ackley. The writer tried to get on the island

July 14, but although it was a very calm day with hardly any sea on, yet it was found impossible to land. The heave of the ocean was so great that oftentimes the spray would dash many feet in the air when a wave broke on the rocks. Capt. Ackley also protected a new colony of about twenty-five pairs of gulls on Shot Island. This is the first year that any have bred there. A colony of about two hundred pairs lived on The Brothers Island. Quite early in the season the Indians succeeded in killing about fifty gulls before the warden heard of their arrival. Fortunately the Indians had camped on Spragues Neck, the owner of which, Mr. Eben Sears, of Boston, Mass., at the request of your Committee, had given a power of attorney to Capt. Ackley. He therefore had no difficulty in driving them from the neighborhood entirely and no further trouble occurred during the season.

In Mooseabec Reach stands a tall cylindrical rock whose flat apex must contain an area of half an acre. The sides are so precipitous that it is impossible for anything without wings to reach the top. The writer passed close by it on the steamer 'Frank Jones' about 5 A. M. July 16. The whole top of the rock was so white with gulls that it looked as though it were covered with a blanket of snow. The pilot of the steamer told the writer that the gulls were never disturbed there, because no one could get at them, and he added: "I am glad of it, for many and many a time in a dense fog or in the darkness, the gulls have told me that I was on the true course." Their cries were always vented on the approach of the steamer whether in daylight, darkness, or fog. He thought that the destruction of that colony of gulls would be a distinct menace to navigation.

A colony of about eighteen hundred pairs of gulls is located at the mouth of Narraguagus Bay, on Egg Rock and Nash Island; these were cared for by Mr. Charles Huckins, who reports that he had no trouble, and that the protection given them resulted in a very material increase in the colony.

Great Duck and Little Duck Islands are located due south from Mount Desert Island and are some six or seven miles out to sea from South West Harbor. Both of these islands contain colonies of gulls, the larger one numbering some two thousand pairs and the smaller about three hundred pairs. Both were

under the care of Mr. D. Driscoll, the owner of Great Duck Island. On the south end of Great Duck the United States has a small reservation and a lighthouse. The head keeper, Capt. Stanley, is an ardent bird lover and protector of the gulls, some of which breed almost at his doorstep. The Indians attempted early in the season to kill gulls on these islands but were driven away by the warden. There is no doubt but that a large increase in both colonies was made during the past season as the result of the special protection given to them. Mrs. Stanley, the wife of the light-keeper, owns and runs a beautifully located and well kept summer hotel at South West Harbor. To her the Committee is under very great obligations for the active part she took in furnishing us with valuable information and aid in the work. Her intelligent knowledge of the birds and love for them made it especially pleasant for the writer to talk with her. She stated that the breeding gulls arrive regularly each year about March 27, hardly ever varying twelve hours from that date. They are not mated when they arrive, and for at least a month they daily have great meetings and caucuses until all are mated. No nest building is commenced until the mating is completed, and the laying season usually commences about May 27, or fully two months after their arrival on the breeding grounds. The nests are very crude and rough affairs when built in the trees, simply a mass of sticks, and within the last few years a few feathers have been added. The gulls are very easily tamed; on one occasion her children found some young birds that had lost their parents. These were brought to the light-station and were fed and cared for until they were grown to full size. Even then, although they were strong of wing and mixed in with the other birds when off feeding, they came regularly every day and sat in a row on the piazza of the lighthouse and called for food.

On another occasion they brought up a brood of four orphaned gulls and took them to the hotel when they went there for the summer. The birds lived on a ledge of rocks near the hotel grounds and were so tame that the guests of the house could pick them up and handle or hold and feed them as though they were domestic animals. They remained with them until late in the season and were finally wantonly shot by some passing gun-

ners, who left them lying on the rocks as an evidence of their wicked cruelty.

In response to the question whether the dark colored birds ever mated with the white birds, Mrs. Stanley said that they did when they were two years old. Her reason for this belief was as follows: On one occasion a young gull had lost one of its legs just above the knee. The wound healed but the bird was a cripple and had to hop and stand on the perfect leg. They fed the bird and it became very tame. In the fall it left with the other gulls and returned with them the next spring, exhibiting its old familiarity. That season, when the bird was only one year old, it did not mate. It remained on and about the island all the season, departing with the others on their southward migration. The following season it returned again and was still partially dark colored. It secured a white mate and raised a brood of young. Mrs. Stanley, to illustrate how the birds have been presecuted in the past, told the writer that a gang of stone cutters from Black Island, where there is a large quarry, came to Duck Island on one occasion and while there gathered up at least two or three bushels of eggs, and after having set up a mark used the eggs as missiles. The warden informed the writer that the Indian hunters claimed to have killed, on the two Duck Islands, during the year 1899, at least twenty-eight hundred gulls. Mrs. Stanley said that this year the number of gulls about the Duck Islands and in South West Harbor showed a very marked decrease over the numbers in 1899 and before. All of the garbage from the hotel is taken out into the harbor and is dumped on the ebb tide. Some hundreds of gulls were always awaiting the dumping hour, but this year the flock was exceedingly small in comparison with the numbers prior to 1899.

In South West Harbor are two docks where large quantities of cod and other fish are cured and packed. The entrails are thrown overboard and the gulls were in the habit of congregating there to feed on the refuse. Men and boys would gather on the docks and wantonly shoot the birds for sport. This has now been stopped. Mrs. Stanley said that Petrels (*Oceanodroma leucorhoa*) were very numerous on Great Duck Island but that none were ever seen during daylight, but as soon as it was dark they could

be seen flying about the light and could be heard uttering their peculiar cry which sounded very much like "Johnnie-put-your-jacket-on." While passing from one building to another with a lantern in her hand large numbers of the petrels would be attracted, some coming so close as to strike her with their wings.

In Penobscot Bay there are four small colonies of gulls. The largest of these numbers about two hundred pairs and is located on Heron Island. This colony shows evidences of having been disturbed a great deal in the past, as the birds were very wild. About half of the nests were built in trees, which were all low, flat-topped spruces. The writer visited the colony July 2 and found only a few nests containing young birds; while at Great Duck Island seven days later all the young were hatched. There is no doubt but that the birds on Heron Island had been robbed of all of the eggs first laid. Evidences of eggs having been used for throwing at a mark were visible, or else they had been broken to compel a fresh laying. While on this island a curious instance of bird psychology was noticed. A photograph of very young birds was desired but it was impossible to find young birds of any size in ground nests. If, after they were found, they were replaced by hand in the nest they would immediately leave it and run to hide. Three very young birds were then carefully removed from a tree nest and placed in a ground nest, where they remained perfectly quiet during the time that it took to set up a camera, focus, and expose two plates, after which they were returned to their tree home. These young birds were certainly governed in their actions by a change of habit caused by the ancestors for some generations back, having changed from ground nesting to tree nesting. The old birds when on the breeding grounds, have four different notes, the most common being a loud *kak-kak-kak*; another was a deeper, two-note call; still another was a note almost like the *honk* of a Wild Goose, while still another resembled in some degree the whistle of a Red-tailed Hawk. The young birds uttered a low weak squeal.

The other colonies are located on Spirit and Black Horse Ledges and Little Spoon Island, and are all small ones, there being not over fifty or seventy-five pairs of birds on each of the



latter islands and a lesser number on the first mentioned. Special protection could not be given these four gull colonies, for the same reason that prevented protection of the terns in Penobscot Bay. If a satisfactory law is passed by the next legislature it may be possible during the coming breeding season to do some good by thoroughly posting these islands with warning notices.

A few Double-crested Cormorants (*Phalacrocorax dilophus*) were seen on Black Horse Ledge, but their nests could not be found. This ledge is well out to sea and is almost impossible to land upon except during the calmest weather.

The largest colony of Herring Gulls (*L. a. smithsonianus*) in the State of Maine is located on the island of No-mans-land. This island has an area of about twelve acres and is situated about a mile from Matinicus Island, some seventeen miles south of Rock-land. It is, like all the islands on the Maine coast, very rocky, with practically no beach, and is consequently difficult to land upon. It is about half covered with spruce and fir trees of moderate size and is well carpeted with red-top grass, clover and weeds. It is an ideal home for gulls and about twenty-five hundred to three thousand pairs breed there. The writer visited this island July 18 and 20, spending some hours there on each day. The birds have been faithfully and thoroughly protected by the owner of the island, Capt. Mark Young. Your Committee have no doubt but that the increase of this gull colony was entirely normal during the year 1900. The island is so far from the mainland that it is not visited by the natives or by summer tourists. The entire population of the adjoining Matinicus Island numbers only about two hundred and fifty people, all of whom are either friends or relatives of the warden, consequently they respect the wish of Capt. Young to carry out the instructions of the American Ornithologists' Union Committee that not an egg should be taken for any purpose, and that not a bird should be killed. The writer visited No-mans-land first on July 18, and on approaching the shore in a dory was saluted by the cries of thousands of anxious gulls. It was a wonderful sight to see these great white birds in such clouds all over the island. The noise was deafening but at the same time was inspiring. Such a sight once seen can never be forgotten and it is worth a long journey to view. There is probably no place on the Atlan-



tic coast south of Newfoundland where such hosts of birds the size of Herring Gulls can be seen at one time. In whatever direction one looked the air seemed to be filled with gulls, and it was a puzzle to the photographer where to point his camera; however, a photograph can only give a faint idea of the bird hosts that could be seen. Efforts were made to photograph individual flying birds at closer range but the surfeit of subjects was distracting. On reaching the crest of the island, the large painted notice of Capt. Mark Young, in full view from every direction, was seen warning all persons to 'keep off' and forbidding the firing of guns or taking eggs. The result of this protection was everywhere visible, for a walker had to step with care or he would be in danger of crushing a young bird that was hiding in the grass. The most immature birds usually selected some cover under which to hide, sometimes going so far under the shade of a stump or log that they looked like balls of chinchilla-colored yarn. Others were content with a more exposed position closer to the nest in which they were hatched. The young seen in the grass were in all stages of downy plumage, some just showing feathers mixed in the down, others further advanced, still others that had almost left the downy stage, and others whose flight feathers were quite large. In the last stage before flight the birds were tailless but the plumage was perfect, the down having entirely disappeared. They were large strong birds and could run through the grass and among the spruces as fast as a man could. It was only by cornering one on a ledge of rocks that a photograph was secured.

To show how perfect the protection on this island had been it is only necessary to state that but one nest containing a set of eggs was found; further, large numbers of young of the year were seen sitting on tide ledges or in flight with groups of adult birds. A nest was found containing a single egg, which illustrates one of the causes of mortality among the young birds. On July 18 this egg was partially hatched, one wing of the young bird having appeared. It had been exposed long enough to be perfectly dry and downy. The chick was heard inside peeping but did not seem able to break through the inside membrane of the egg, which may have been abnormally tough. Two days later this nest was visited, and the young chick was found, but it was dead. From its ap-

pearance it had died only a short time before. Some other dead birds were found on the island but they were always very small ones. After passing the downy stage the mortality seems to be very slight. The writer wishing to get some photographs of the old birds concealed himself among the spruces and almost immediately the adult birds commenced to settle on the trees or on the ground among the nestlings, and the cries ceased to a large degree. The slightest movement or the appearance of the hider was sufficient to alarm the gulls and at once clouds of them were in the air again. Invariably on alighting, either on the ground or in a tree top, the gulls would elevate both wings preparatory to folding them. It was certainly a most beautiful and impressive sight to see these superb white birds perched singly or in groups on the spruce tops, and it forcibly impressed itself upon the mind of the writer that if every feather-wearing woman could only see them there she would never again ask to see them perched upon a bonnet. The birds are too grand to be used for any other purpose than that intended by nature.

The Island of No-mans-land is so admirably situated for a breeding place for Herring Gulls that it would be a wise move on the part of the Commonwealth of Maine to purchase it and set it aside in perpetuity as a reservation and home for the gulls. However, this would be useless unless at the same time a law was passed giving them absolute protection at all times and making it a misdemeanor to kill one.

One of the principal industries of the male population of Matinicus Island is the catching and curing of codfish. While on the fish wharf one day, the writer took a bucket of cod livers and, although not a gull or tern was in sight, commenced to throw them one by one into the water. It was only a moment or so when a tern appeared, and with light, graceful darts to the surface would daintily pick up pieces of liver. Soon others appeared, and with them gulls, until in a very short time a mixed flock of terns and gulls were gathered numbering nearly a hundred. A cod liver is about two inches wide and six inches long, but a gull will take a whole one down at a single gulp. The contrast between the light, airy movements of the terns and the heavy splash of the gulls, which made the spray fly, was very marked.

How impossible it is to fairly estimate the numbers of birds on a breeding ground during daylight is evident from the fact that very many of them must be away seeking food. On the return trip from Matinicus to Rockland, late in the afternoon, all the gulls seen on the starboard side of the boat, and which were flying toward No-mans-land, were counted; they were found to number over one hundred. If the island is used as a center of distribution, and lines of birds radiate from it in all directions, as is probably the case, some estimate of the number of absent birds can be formed. Some of the counted birds were seen almost up to the mouth of Rockland Harbor, thus showing how long a distance they travel in search for food. The estimate of the numbers of a colony, made an hour or two after daylight and before sundown, is very apt to be a conservative one, for it cannot include the birds that are away acting as scavengers of the sea.

Respectfully submitted for the Committee,

WILLIAM DUTCHER.

New York City, N. Y., November 1, 1900.

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*Sub-committee on Laws.*

WILLIAM DUTCHER and DR. T. S. PALMER.

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## GENERAL NOTES.

**The Paroquet Auklet in California.**—In the collection of the California Academy of Sciences there are five specimens of *Cyclorhynchus psittaculus* from the bay and ocean at San Francisco. Three of these were captured by Dr. John Hornung—a male, Jan. 10, 1895, and a male and female, Jan. 8, 1899. The remaining two specimens (a male and female) were secured by Mr. William J. Hackmeier, Dec. 17, 1899. The white feathers behind the eyes are well developed in the three January specimens. So far as I am aware this species has not been recorded from California waters.—LEVERETT M. LOOMIS, *California Academy of Sciences, San Francisco.*

**On the Southern Limit of the Winter Range of Bonaparte's Gull (*Larus philadelphia*).**—In the first edition of the A. O. U. Check-List the habitat of *Larus philadelphia* is given as follows: "Whole of North America, breeding mostly north of the United States; south in winter to Mexico and Central America." In the second edition the closing clause is omitted and the following substituted: "Not yet recorded from south of the United States, though reported from the Bermudas."

Nevertheless, it has long been a matter of record (Lawrence, *vide* Grayson, Mem. Bost. Soc. Nat. Hist., Vol. II, 1874, p. 317) that this species occurs at least as far south as Mazatlan, Sinaloa. A recent instance of occurrence is not lacking to confirm this record, there being in the collection of the California Academy of Sciences three specimens from

Mazatlan taken by Mr. P. O. Simons in December, 1896. — LEVERETT M. LOOMIS, *California Academy of Sciences, San Francisco.*

**Mother Carey's Chicken.** — Knowing that the Wilson's Petrel (*Oceanites oceanicus*) migrates for the breeding season, through the autumn until March perhaps, to the South Atlantic, I was interested to note during my return voyage from Liverpool — November 17, I think it was — in mid-Atlantic, that the familiar Petrels which I had hitherto seen only solitary or unattached, were now flying in flocks of two dozen or so. The bird seemed to be the Mother Carey's Chicken of our New England summer coast waters, but did not appear singly. I could detect no special southward movement, but the ship might well have interrupted this course among birds which fly so low. It might be interesting to add my observation, that both in August and in November, the only other bird which might be met with at any hour of the voyage from landfall to landfall was a Shearwater, presumably *Puffinus major*.

If anyone has observations counter to this last I should gladly hear of them. — REGINALD C. ROBBINS, *Boston, Mass.*

**The Yellow-billed Tropic Bird in the Hawaiian Islands.** — This Tropic Bird (*Phaeton americanus*) or 'Kooi,' as the natives call it, is rather common upon the windward side of the island of Hawaii where it breeds in holes in the cliffs. I have secured three specimens and have seen many more. So far it is the only Tropic Bird I have been able to discover on Hawaii, although there is little reason to doubt that both *P. atherus* and *P. rubricauda* occur, at least casually. None of the present day natives of Hawaii whom I have questioned appear to know anything of the Red-tailed Tropic Bird, although Mr. Wilson states that he shot several specimens of this species in the caldera of Kilauea. Both Kauai and Niihau are inhabited by *P. rubricauda*, while, according to Wilson, Mr. Perkins found *P. atherus* breeding in the cliffs about Honolulu. It thus appears that the Hawaiian Islands are unusually favored in having three resident species of Tropic Birds. — H. W. HENSHAW, *Hilo, Hawaii.*

**The Old Squaw at San Francisco.** — A female *Harelda hyemalis* (No. 12892, Calif. Acad. Sci.) was taken by Dr. John Hornung at San Francisco, December 26, 1898. Notices of the occurrence of this duck in California are so few as to render an additional capture worthy of note. — LEVERETT M. LOOMIS, *California Academy of Sciences, San Francisco.*

**The Emperor Goose in the Interior of California.** — In the fall of 1895, Mr. Lyman Belding presented to the California Academy of Sciences an immature specimen of *Philacte canagica*, which had been shot by a market hunter on November 1 of that year near Gridley, in Butte County, on Butte Creek, a tributary of the Sacramento River.



October 8, 1900, Mr. Thomas E. Slevin found in one of the San Francisco markets another immature Emperor Goose, which he obtained for the Academy. This bird probably came also from the San Joaquin-Sacramento Valley—the chief source from which the supply of geese is drawn for the San Francisco markets.

The only other record for California appears to be the one by Mr. Townsend (Auk, Vol. III, p. 491) reporting a specimen taken by Mr. Charles Fiebig at Humboldt Bay. — LEVERETT M. LOOMIS, *California Academy of Sciences, San Francisco.*

**Nesting of Cory's Bittern at Toronto, Ontario.** — Although Cory's Bittern was at first believed to be only a straggler at Toronto, the taking of young birds, together with the continued presence of this bittern, led many to believe that the eggs would eventually be found in Toronto marsh; but it was not till 1898 that a nest was discovered. On June 15 of that year, Mr. George Pierce, while collecting in Ashbridge's marsh, Toronto, took a female of *Ardetta neoxena* from her nest. The nest was described as simply a mass of last year's reeds, and contained one egg. Soon after the bird was taken Mr. J. H. Ames saw it and noticed that the abdomen was much swollen; next day I examined the bird, it having in the meantime been partially skinned, and the body cut open, exposing a fully developed egg, unfortunately broken. I compared the broken egg with the one found in the nest, and they agreed perfectly in color; other eggs in the ovary showed signs of development. The color of the eggs was much darker than the average of Toronto taken sets of *A. exilis*, though I have since seen a set as dark. The body, with the broken egg undisturbed, was preserved in alcohol, and, together with the other egg, is now in the possession of Mr. Ames; the skin is in my collection.

Mr. Ames and myself have thought it better to separately record the facts as we found them; the correct identity of the eggs of Cory's Bittern being of sufficient importance to warrant great care being used. — JAMES H. FLEMING, *Toronto, Ontario.*

**Nesting of Cory's Bittern (*Ardetta neoxena*) and Other Notes.** — On the evening of June 15, 1898, I was in Mr. Geo. Pierce's store when he returned from a collecting trip on Ashbridge's Bay; he brought in with him a female Cory's Bittern and egg. I at once took the opportunity of examining it and found that the abdomen was very much swollen, which suggested that it contained more eggs, and which afterwards proved to be correct. I had no opportunity of comparing the eggs with those of *A. exilis*. The egg measured 1.30 x 1.00.

On December 2, 1898, a female immature Iceland Gull (*Larus leucop-terus*) was taken in Toronto. It was afterward sent to me by a friend and is now in my collection.

On May 11, 1900, while on a collecting expedition, I took a male Prairie Warbler (*Dendroica discolor*) in full plumage.



On November 3, 1900, my son took a Purple Sandpiper (*Tringa maritima*) in Ashbridge's Bay. There were three in the flock, and the other two have been since taken.

On September 1, 1900, a Yellow Rail (*Porzana noveboracensis*) was taken at Toronto and brought to me alive. It is thriving, and it is very interesting to hear its different calls.—J. H. AMES, *Toronto, Ontario*.

**Sexual Difference in Size of the Pectoral Sandpiper** (*Tringa maculata*).—In connection with my note in 'The Auk' (Vol. XVI, April, 1899, p. 179), I have lately run across the following reference which seems of interest. From John Murdoch's account of the birds observed at Point Barrow, Alaska (see Lt. P. H. Ray's Report of the Expedition, 1885, p. 111) I quote the following: "There is frequently a great disparity of size between the two sexes. A comparison of the large series we collected shows that the average length of the female is about three quarters of an inch less than that of the male, but that the smallest female was fully an inch and a half shorter than the largest male. The difference in size is so marked that the natives noticed it and insisted that the small females were not Aibwúkia, but Niwiliwilúk (*Ereunetes pusillus*)." Certainly such facts should be in our manuals.—REGINALD HEBER HOWE, JR., *Longwood, Mass.*

**Great Gray Owl in Wyoming.**—During the latter part of last month, September, 1900, in company with my brother, the State Engineer, I visited the Alpine Lake region of the western slopes of the lofty Wind River Mountains. On the 26th we were at the hunting lodge of Wm. Wells, one hundred and fifty miles north of the Oregon Short Line railroad. This lodge is known to the post office department as Wells post office, and is the end of the mail route which carries the mail by stage from Opal station three times a week. Among the trophies of the hunt, with which the walls of Mr. Wells's lodge are decorated, I noted a Great Gray Owl (*Scotioptex cinerea*). The bird was one of the largest of the species, the wing measuring  $19\frac{1}{2}$  ins. and the tail 13 ins.

Inquiry developed the fact that Mr. Wells killed the bird with his snowshoe pole in April, 1899. He stated the snow at the time was between three and four feet deep and as he was returning home on his snowshoes he saw the bird sitting in a low spruce tree not far from the lodge. He approached easily, and knocked the bird from its perch with his snowshoe pole, as stated above. Mr. Wells said further that it was the first and only owl of the kind he had seen during a residence of several years at the lodge.

I make this note because this is the first Great Gray Owl I have met with in Wyoming. Two of the hunters' guides employed by Mr. Wells, told me they had seen this owl in the mountains, but as they had never killed the bird I am inclined to question their identification. However, I think it quite probable the Great Gray Owl may be a rare winter resident

in the higher mountainous and densely wooded tracts of the northern half of the State. Wells post office is located in the margin of a dense pine and spruce forest at the western base of the lofty Wind River range of mountains, in Uinta County, Wyoming, and its elevation, by aneroid barometer, taken the day we were there, was 8,000 feet.—FRANK BOND, *Cheyenne, Wyo.*

**Breeding of the Alder Flycatcher (*Empidonax traillii alnorum*) near Plainfield, New Jersey.**—During a visit to Ash Swamp, three miles east of Plainfield, Union County, New Jersey, on the 19th, 20th, and 21st of July, 1899, I was surprised to find the Alder Flycatcher (*Empidonax traillii alnorum*) a common species there.

My identification was confirmed by Dr. Jonathan Dwight, Jr., who examined a bird-of-the-year secured on August 6, 1899.

Circumstances pointed to its breeding here, and my experience during the past summer proves that it does so, for on every visit to the swamp I found the shy little flycatchers among the alders. These dates include May 30, June 17 and 24, and July 8, 15, 22 and 29.

The species is rather numerous and generally distributed throughout the swamp (which is less than one square mile in area), frequenting chiefly the alders along the streams and edges of the woods. Elsewhere in the vicinity of Plainfield I have found it only during the migrations.

I have not yet succeeded in finding an occupied nest, but discovered a deserted nest containing one egg, which may belong to this species. On July 29 I came upon one of these birds with a brood of full-grown young and saw one of the latter fed by its parent.

I believe this to be the first positive record of the breeding of this species south of northwestern Connecticut.

Its three congeners of the eastern United States all occur in this vicinity. The Least Flycatcher is a common summer resident, the Green-crested Flycatcher is a rare summer resident, and the Yellow-bellied Flycatcher is a fairly common transient visitor.

The avi-fauna of this region is decidedly Carolinian.—W. D. W. MILLER, *Plainfield, N. J.*

**The Raven in Polk County, North Carolina.**—On the morning of February 15, 1897, I saw a Raven as it passed over the mountain village of Tryon, Polk County, N. C. Tryon is said to have an elevation of about 1500 feet, and is situated on a ridge leading up from the Piedmont Region to the peaks of Melrose and Hogback, the latter in South Carolina.—LEVERETT M. LOOMIS, *California Academy of Sciences, San Francisco.*

**Song of the Western Meadowlark.**—Referring to the comment of G. S. Mead in his letter of August 18, 1900, printed in the October number of 'The Auk,' relative to the musical ability of *Sturnella magna neg-*

*lecta*, I wish to add a paragraph in commendation of the bird. On Monday, Oct. 1, 1900, I was at Big Piney post office, Wyoming, seventy-five miles north of the Oregon Short Line railroad. Early in the morning I was attracted to the wreckage of an old waterwheel in North Piney Creek just back of the post office, by a sweet and continuous vocal effort of some bird. I believed the singer was a Meadowlark for some of the notes were familiar, but I was in doubt, never having heard the song before. I approached, carelessly, and soon discovered a Western Meadowlark perched upon the topmost paddle of the old wheel singing — well singing an aria from the song-book of Nature. To me the performance was exceedingly creditable; but owing to the surroundings and the season of the year, its actual musical value may have been overestimated. The performance was continuous for over three minutes when the bird joined a small flock that was foraging industriously for breakfast along the bank of the creek.

This example of continuous vocal effort of the Western Meadowlark is the first and only one of my experience and while Mr. Mead's suggestion — that there may be individuals of surpassing vocal powers, is of doubtful value, nothing can be more certain than that continuous bursts of song are of rare occurrence. May I be permitted to add, also, that during nineteen years' residence in Wyoming my observation of the spring and summer song of the Western Meadowlark has forced the conclusion that there is no such thing as a distinctive vocal utterance of the race. One would almost be safe in asserting that no two larks sing alike, so great is the range of individual effort. While the songs of all of the Western Larks vary greatly from that of the eastern form the lack of uniformity will insure to the promoters of the taxonomic value theory final and certain confusion.—FRANK BOND, *Cheyenne, Wyo.*

**Occurrence of the Mexican Crossbill (*Loxia curvirostra stricklandi*) at Neligh, Nebraska.** — It is interesting, to say the least, to note the occurrence of this southwestern bird at Neligh, Nebraska, several hundred miles east of its normal range. A large female was taken by myself on December 9, 1898, just at dusk, while it was perched on the head of a sunflower (*Helianthus annuus*) feeding industriously upon the seeds. The only other birds in the near vicinity at the time were a few Common Redpolls (*Acanthis linaria*). There was a fair amount of snow on the ground at the time, but no heavy storms had occurred to account for the bird straggling so far from its usual range. The specimen is now in my collection. — MERRITT CARY, *Neligh, Neb.*

**An Addition to the A. O. U. Check-List.** — Several years ago I submitted to Mr. Brewster three specimens for comparison with the type of *Dendroica nigrifrons*, and he reported that they belonged to that Warbler. The three specimens form a part of a series of eleven males, in the collection of the California Academy of Sciences, taken in the latter part of May

and during June, 1894, in the Huachuca and Chiricahua Mountains, Arizona, by Mr. W. W. Price and his assistants.

Comparing this series with several males of *D. auduboni* in very high breeding plumage from the Sierra Nevada of Central California, I find that the gap between *D. auduboni* and *D. nigrifrons* is nearly bridged over.—LEVERETT M. LOOMIS, *California Academy of Sciences, San Francisco.*

**Sequence of Plumages in the Black-throated Blue Warbler.** In my paper on the Molting of Birds (Proc. Acad. Nat. Sci. Phila., 1896, 159) I erroneously stated that the young males of *Dendroica caerulescens* in the first winter plumage were brown like the adult female. Attention was called to this error by Mr. Wm. Palmer in reviewing my paper in 'The Auk' (1896, p. 242). As I find, however, that many persons still regard some of the brown fall birds as young males it may be well to call attention to an interesting specimen in my collection, secured in Wyoming County, Pennsylvania, July 14, 1900. This bird is molting from the juvenal to the first winter plumage, the olive brown feathers of the earlier dress being seen on the back, sides of the body and under the tail, while most of the remaining feathers are of the black, blue and white plumage of the 'old male.' The flight feathers are not shed at this molt. All the feathers of the throat are frosted with white. This character as well as the olive edgings to the wing feathers will serve to distinguish males of the year from old birds.—WITMER STONE, *Academy of Natural Sciences, Philadelphia, Pa.*

**Granatellus venustus in Sinaloa.**—The California Academy of Sciences possesses three specimens of this rare Warbler collected by Mr. P. O. Simons in Sinaloa. Two of the birds were secured at Tatmalis—a male, June 4, and a female, June 17, 1897. The third example (a male) was obtained April 10, of the same year at Rosario.

The following is a description of the female: Above drab with top of head tinged with wood brown, deepening toward forehead; above ear-coverts a broad line of buff, extending nearly to the middle of the upper eyelid; ear-coverts wood brown, lores paler; wings broccoli brown; tail brown with three lateral feathers tipped with white, the outer web of outer one almost wholly white; lower parts whitish, with a broad buff band across chest; sides of body washed with buff; under tail-coverts largely tinged with buff; wing 2.15 in.; tail 2.50; exposed culmen .46; tarsus .75.—LEVERETT M. LOOMIS, *California Academy of Sciences, San Francisco.*

**Maryland Yellow-throat at Sea.**—On August 19, 1900, at about 3 P. M. when my ship, the 'Saxonia,' eastward bound, was about 305 miles East  $\frac{1}{2}$  South from Boston Light, a small bird flew up from astern and spent several hours perched in various parts of the upper works. It was lively, generally shy, plump and apparently happy. It took no interest in finely

chopped meat, nor crumbs nor meal. Wishing to ascertain its identity exactly, I whistled the well-known "*wichity wichity*" tune of the Maryland Yellow-throat (*Geothlypis trichas*). On hearing this tune, the bird though fully 50 feet away, flew toward me almost without hesitation till it perched within four feet of my lips. Having eyed me seriously for a while it withdrew to a little distance and soon lost interest in my whistling.

Thus identified, the bird must have been the Maryland Yellow-throat—a male in fall plumage, a dress which in any case I think I know accurately. Now the interest of this occurrence lies in the fact that the position of the ship (and the matter grew hourly worse while the bird staid aboard) was well to the eastward of a line drawn from Nova Scotia to any land on this side of the Atlantic, even Bermuda. And I do not suppose these warblers migrate direct from Newfoundland to Bermuda nor the West Indies. There had been no noticeable hard weather; the migrant was fresh; and I must conclude (with Mr. Brewster) that my Yellow-throat was a lost bird. It would be well to record all such instances of sheer error in migration. In this case the only point in doubt would be whether it was a young bird in its first attempt.—REGINALD C. ROBBINS, *Boston, Mass.*

**The Breeding of the Hermit Thrush on Martha's Vineyard Island.**—Mr. H. V. Greenough took on July 27, 1900, a female Hermit Thrush (*Hylocichla guttata pallasii*) near Tashmoo Lake, West Chop, Martha's Vineyard, Mass. The bird was heard singing, and a number of others of its kind were seen, evidently of one family. The bird taken is in very worn breeding plumage. This is the first breeding record I believe for this island.—REGINALD HEBER HOWE, JR., *Longwood, Mass.*

**The Hermit Thrush on Martha's Vineyard, Mass.**—Apropos of Mr. Reginald Heber Howe's record of the Hermit Thrush on Martha's Vineyard the following may be of interest. In a list of birds read before the Delaware Valley Ornithological Club, Feb. 2, 1899, the writer gave the Hermit Thrush as a summer resident on Martha's Vineyard. My first experience with this bird was in August, 1897, while camping on the western shore of Lake Tashmoo, a small brackish pond in the northern part of the island. Our camp was situated upon a small promontory which projects into the lake for about one hundred yards. Extending between this point and the shore is a cove-shaped marsh covered with sphagnum and freshened by numerous springs. On the side of the marsh near the shore the bank ascends abruptly for eight or ten feet and then slopes gradually back, at no place reaching a height of fifty feet. Covering the point and extending half a mile back from the shore is a grove of yellow pines. Here and there they have been cleared away, giving place to an undergrowth of bay, high bush huckleberry, and various species of oak. Further back from the shore the pines have so intergrown as to make it almost impenetrable. Bordering on these is an oak



growth which where it encroaches upon the pines makes a dense and well-shaded woods.

Early in the morning we would invariably find several Hermit Thrushes near the springs. Soon, however, they would retire to the deep woods whence we could hear their songs until late in the afternoon.

During each of the following summers I have made many trips to this locality, the earliest and latest dates being June 24 and September 27. Of all the days spent there I can only recall one instance, a dark cloudy day late in August, upon which I neither heard nor saw a Hermit Thrush.

Although the writer has never found a nest he has seen the young birds repeatedly and feels quite confident that at least three pairs nested there during the past summer.

So far my experience leads me to believe that this "boreal island," occupying less than one square mile, is the only spot where the Hermit Thrush nests on Martha's Vineyard.—HERBERT L. COGGINS, *Germantown, Pa.*

**Notes from Ontario.**—In 'The Auk' for October, 1898, I reported the finding of the nest and eggs of the Solitary Sandpiper (*Totanus solitarius*) on Simcoe Island, Ontario. Since that time careful inquiry has revealed the fact that this bird is a constant summer resident about Kingston, and that it breeds pretty regularly is probable. This summer I spent a month (August) on the Petewawa River, a hundred and fifty miles north of Kingston. This river runs through an uninhabited district and rises in Algonquin Park, which is reserved by the Ontario Government for the protection of game. The whole of the southern branch of the Petewawa was investigated, and nearly everywhere the Solitary Sandpiper was encountered, singly, and in small flocks, the flocks consisting invariably of two parent birds and this season's young. On the 4th of August the young were more than half grown, and able to fly well. Although the Sandpipers were so easily approached in this unfrequented district, that it was a simple matter to identify them, still in order to leave no doubt, a specimen (adult) was taken from one of the flocks. No Spotted Sandpipers were seen.

The Petewawa district is extremely rich in Warblers, many of the rarer ones undoubtedly breeding there, but among the common birds it was interesting to find the Maryland Yellow-throat. A brood of Hermit Thrushes was seen, and the Great Horned Owl was extremely common.

Near Renfrew, ninety miles north of Kingston, Bartramian Sandpipers (*Bartramia longicauda*) were noted in the fields. I have now traced this bird in Eastern Ontario over a region nearly a hundred miles square.—C. K. CLARKE, M. D., *Rockwood Hospital, Kingston, Ontario.*

**Two Interesting Records from New Mexico.**—During the fall while collecting about Albuquerque, N. M., two birds new to the fauna of the Territory have come before the writer's notice, accounts of which doubtless are of interest.



**Xema sabinii.**—October 7, 1900, while shooting ducks along the banks of the Rio Grande, a small flight of gulls was observed, the birds passing just out of gunshot directly down the stream, near enough to note the presence of a dark collar-like marking upon the fore-breast. The next day, a pair of wings was brought to me by a local gunner taken from a gull shot the preceding day from a small flock which wheeled in over a small pond. These, sent to Dr. Ridgway, were identified by him as belonging to *Xema sabinii*, the first record of this wandering species for New Mexico being thus made; and I doubt not that the birds observed by myself the day before were of the same species.

**Bubo virginianus arcticus.**—On November 18, Mr. C. M. Barber discovered a freshly killed owl hanging to a tree at Bernalillo, N. Mex., where it had been recently hung, presumably by some gunner. Presenting it to me the next day, I was surprised to find the bird a handsome example of the Arctic Horned Owl (*Bubo virginianus arcticus*). The entire middle belly and abdomen, including vent and under tail- and wing-coverts, and a large mass covering the throat and fore breast are pure immaculate white; the entire under parts are largely of that color, the markings comparatively few and distinct; the face is nearly pure white as well as the entire feathering of the lower limbs, and concealed white occupies a large portion of the broad webs of the flight feathers.

Comparison with examples of *B. v. subarcticus* and of var. *saturatus*, both of this region, betrays marked distinction.

That these three Horned Owls should occur here, together, is not a little remarkable. All occupy the lower elevations in the colder weather, *i. e.*, counting the *arcticus* example cited. But during the breeding season, *saturatus* is found as the bird of the higher timber belts, and *subarcticus* dwells lower.

The presence of the single specimen of *arcticus* may be variously suggested. The bird *may* live near the timber limits of the highest ranges, this specimen having been driven lower or wandered there. It may have, also, wandered from the northern regions. Hardly could it have been driven across the continent by inclement weather, but readily could have been forced to the river valley by the fierce storm which raged for three days, beginning with its capture, and which piled the ranges with snow.  
— FRANCIS J. BIRTWELL, *Albuquerque, N. M.*

## RECENT LITERATURE.

Dwight's 'Sequence of Plumages and Moults of the Passerine Birds of New York'.<sup>1</sup>—The present paper is in all respects the most important contribution to the study of plumages and moults that has yet appeared, and is in fact a monograph of the subject it treats, which will serve as a standard work of reference for a long time to come. The treatise comprises 287 pages of text and seven half-tone plates of photographs and photomicrographs of feathers illustrating various methods of abrasion, etc.

The subject of the work is treated under several subheadings, 'Indoor Study of Moults,' 'Process of Moults,' 'Early Plumages and Moults of Young Birds,' 'Sequence of Plumages and Moults,' 'Color Facts *versus* Color Theories,' 'Outdoor Study of Moults,' 'Plumages and Moults of New York Species' (188 pp.), 'Bibliography' (27 pp.).

Under the first of these are considered the fundamental principles of moulting, wear, or feather disintegration, and the determination of age by osteological characters. The last is a most important matter which has never before been clearly set forth, but with Dr. Dwight's explanation all collectors should in future be able to distinguish at once between the 'bird of the year' and the adult in every late summer or autumn specimen, and thus add immensely to the value of their materials. The principal point in Dr. Dwight's explanation will bear repetition: "It is simply this,—the prominent frontal bones of the young bird are thin and transparent showing the brain beneath, while those of the adult are thicker and flecked with whitish dots, which show even better as black dots, when, with the brain removed, the skull is held up to the light." The value of the primary coverts as an index of age is also frequently dwelt upon, as they retain the characters of immature plumage longer than any other feathers.

Under 'Process of Moults' the various feather tracts of the bird are considered with great detail and it is demonstrated that there is much more symmetry in the moult on the body than had previously been supposed. The apparent irregularity is due to the fact that the moult begins almost simultaneously in a number of different tracts, spreading independently in each of them from a central point or focus. Dr. Dwight aptly likens the progress of this moult to a rising tide gradually spreading over a number of small islands. The length of time required for the complete postnuptial moult is also discussed, a question that has occasioned considerable difference of opinion. Dr. Dwight estimates it at about one month to six weeks, as a rule. Under 'Sequence of Plumages and Moults' is a most careful discussion of this whole subject, resulting

<sup>1</sup>The Sequence of Plumages and Moults of the Passerine Birds of New York. By Jonathan Dwight, Jr. Reprinted from the *Annals New York Acad. Sci.*, Vol. XIII, pp. 73-360, pl. i-vii, Oct. 31, 1900.

in a tabulated series of terms, which are adopted in the succeeding pages and which should be followed by all future investigators, both for the sake of uniformity and because the terms seem to be the best that can be suggested. This scheme is as follows:

*Plumages.*

1. Natal [= Down].
2. Juvenal [= "First Plumage."]
3. First Winter.
4. First Nuptial.
5. Second or Adult Winter.
6. Second or Adult Nuptial.
- etc.

*Moults.*

- Postnatal.
- Postjuvenal.
- First Prenuptial.
- First Postnuptial.
- Second or Adult Prenuptial.
- Second or Adult Postnuptial.
- etc.

In the chapter on 'Color Facts *versus* Color Theories,' the advocates of 'Aptosochromatism' are considered, and if they have hitherto deceived themselves by thinking that they had still a leg to stand upon, surely it has been knocked from under them by the present paper! Dr. Dwight very aptly concludes this discussion as follows: "Years ago a theory was current that swallows hibernated beneath the mud of ponds. The fact that they could not do it and did not do it is a lesson that our modern color-change theorists would do well to take to heart."

Under 'Out-door Study of Moults' we find much of interest and many important suggestions. The connection between moult and migration is considered as well as the difference between the postjuvenal moult of birds of the first and second brood of a single pair. It is ingeniously suggested in this connection that the first brood, being stronger and more precocious than the second, probably often assume a more advanced first winter plumage than their younger brothers, anticipating in part perhaps the normal plumage of the succeeding nuptial season, which would account for many apparent anomalies.

In considering the preponderance of young in autumn Dr. Dwight advances the plausible suggestion that "the old birds take better care of themselves and the young most frequently fall victims to our powder and shot. Anyone who has chased a family of Towhees along a hedge row will be prepared to admit that it is the parents who skip along at the head of the procession . . . and in the autumn do we not find adult Wood Pewees and Scarlet Tanagers almost inaccessible at the very tops of the tallest trees?" This he regards as the *main* cause of the scarcity of fall adult specimens rather than earlier migration and other elements that are operative to a certain extent.

Prefixed to the main chapter of the work is a classification of New York Passerine birds according to the moult. From this we learn that 52 species moult twice a year while 81 have but a single moult. Of the first class, however, 21 moult only to a very limited extent in spring, and

in 14 others the spring moult is largely suppressed after the first year. The only species which have a complete moult twice a year are the Bobolink, Long and Short-billed Marsh Wrens and Sharp-tailed Sparrow,<sup>1</sup> the last being for the first time added to this category by Dr. Dwight.

In the body of the paper the species are considered systematically, following the nomenclature of the Second Edition of the A. O. U. Check-List. From one to three pages are devoted to each species, the plumages being described in numbered paragraphs, beginning with the natal down. The juvenal and one or more of the succeeding plumages are described in detail and the others contrasted with them, while the part played by each moult or by wear in producing the various plumages is carefully considered. The color of the natal down in many birds is here given for the first time, as also descriptions of many juvenal plumages. The only species in which Dr. Dwight was unable to examine specimens in juvenal plumage are *Alauda arvensis*, *Carduelis carduelis*, *Ammodramus nelsoni*, *Passerella iliaca*, *Dendroica palmarum*, and *Geothlypis agilis*.

In his preliminary remarks Dr. Dwight says: "There may be little that is quite new in these pages, for many have traversed the subject before me, but no one has taken just my point of view, and my work has been on absolutely independent lines. Nothing whatever has been taken at second hand." While all this is of course true, nevertheless Dr. Dwight has elaborated the subject to such an extent, and made his work so nearly complete in all but a few species, that it is to be regretted that a slightly different treatment was not adopted, *i. e.*, that more frequent reference was not made through the body of the text to the work of others, so that the large number of new facts set forth by Dr. Dwight should be properly emphasized and the mistakes and erroneous suppositions of others specifically pointed out, when they are corrected. Some apparently authentic "second hand information" might also have been included with advantage where it supplements or differs from the author's experience. This is the only criticism that can well be advanced against this admirable piece of work.

In order to point out more clearly the many new facts first brought forward by Dr. Dwight, the writer will take the liberty of making a comparison with a paper of his own<sup>2</sup> covering much the same ground, and

<sup>1</sup> As illustrating the importance of having specimens taken just at the right time, which Dr. Dwight emphasizes, I may state that when preparing my paper (see below) I examined a series of 104 of these birds and found that while they moulted the tail and body feathers in spring the primaries were apparently retained. Specimen number 105, however, secured after my paper was published, showed the complete moult!

<sup>2</sup> The Molting of Birds with Special Reference to the Plumages of the Smaller Land Birds of Eastern North America. Proc. Acad. Nat. Sci. Phila., 1896 (Apr. 14), pp. 108-165.

which seems to be the only other general paper on the subject. It should be borne in mind that in this paper, owing to lack of space, no attempt was made to describe all the plumages of the species studied, a knowledge of the ordinary ones being taken for granted. Furthermore, the first and second winter and first and second nuptial plumages were not regarded as different plumages unless *easily distinguishable*. In fact, "plumage" indicated, as it frequently does, one of the several *recognizable* dresses that a bird assumes; while Dr. Dwight uses the term in a more exact sense to indicate *every* dress that the bird assumes through its life, and carries his descriptions of the several plumages on as long as any difference whatever can be detected.

Making allowance for this it is interesting, especially to 'aptosochromatomaniaacs,' to learn that out of 112 species treated in both papers, studied independently and mainly from different material, we reached, in 71 cases, exactly the same conclusions as to moults and plumages. In 11 other species neither had sufficient material to reach definite conclusions, and in 30 cases Dr. Dwight has been able to prove that a partial spring moult occurred or did not occur when the insufficient material at my command led me to think otherwise. He has also shown that certain species moulted flight feathers when I had failed to detect it.

Dr. Dwight, in the course of his investigation, examined some 15,000 specimens while I examined probably 8000, and neither of us found the slightest indication of any change in plumage other than that produced by moult or wear.

Considering now the apparently new points brought forward by Dr. Dwight, which either correct or supplement statements of previous writers, we have first the addition of 11 birds to those which renew the flight feathers at the postjuvénal moult:—*Sturnus vulgaris*, *Passer domesticus*, *Melospiza fasciata*, *Ammodramus maritimus*, *Petrochelidon lunifrons*, *Clivicola riparia*, *Stelgidopteryx serripennis*, *Progne subis*, *Hirundo erythrogastra*, *Vireo noveboracensis*, and *Icteria virens*.

Some of the Swallows require confirmation in the shape of moulting specimens from the tropics, and the apparent prenuptial moult of *Hirundo erythrogastra* is also left for future confirmation. In this connection a specimen recorded by me should be mentioned, which appears to be an adult that has just assumed the winter plumage and which has short outer rectrices, demonstrating that a prenuptial moult of these feathers at least must take place.

With regard to the Song Sparrow Dr. Dwight shows that some individuals moult only part of the primaries at the postjuvénal moult and that the Indigo Bird occasionally does the same thing, thus accounting for some of the curious autumnal specimens of this species that have been taken. A number of birds are shown to have a prenuptial moult every year in which it was previously thought to be suppressed after the first season. In the case of the Pine Finch no mention is made of the prenuptial moult which undoubtedly takes place in the first year.<sup>1</sup>

<sup>1</sup> See Auk, 1897, p. 320.



One of the most interesting points in the paper is the explanation of the brightening of the winter plumage of the Purple Finch, Crossbill, etc., in which the winter feathers are shown to have red barbs and gray barbules. The latter being very largely lost in spring leave only the red elements of the feathers and the whole plumage is thereby brightened. The author likewise claims that all Purple Finches assume the red plumage at the first postnuptial moult, and that none remain always in the brown state, as had been supposed by some. The former idea that some male White-throated Sparrows never attained the brightest coloration of the species is also disproven. On the contrary, there is a regular prenuptial moult, and all old males are dull in winter, the highly plumaged winter specimens being apparently precocious young which have anticipated the prenuptial moult at the postjuvinal.

Mottled breeding Crossbills are shown to be birds of the previous year that have undergone a postjuvinal moult of varying extent in different individuals, and all males at the first prenuptial moult become uniform red, which color is not again lost.

The abrasion of the tips of the feathers in the Snowflake Dr. Dwight regards as due to the more rapid chemical disintegration of the light areas and not to their more delicate nature and looser construction, as stated by Mr. Chapman and the writer.

The case of the Orchard Oriole, the long-standing puzzle in the study of moult, is still unsolved in all its details, but Dr. Dwight advances excellent arguments in support of his theory that the chestnut and black plumage is acquired at the first postnuptial moult, the green mottled birds being all in the first nuptial plumage, the difference being due to individual precocity. In fact Dr. Dwight thinks that every one of our Passerine birds can and in most cases probably does assume the adult plumage at the end of the first nuptial season.

The Flycatchers (except *Myiarchus* and *Sayornis*), like the Swallows, still await more specimens from the tropics before their moults can be understood, owing to the fact that they migrate before the change takes place.

The above are merely some of the most important discoveries made by Dr. Dwight, but his whole paper teems with exact information, original in many of its details, and it should be carefully studied by every one interested in the subject.

The time is about past when a collector was content to call breeding birds 'adults' and all others 'immature.' The fact already outlined is now clearly established that every species has a definite sequence of plumages, each corresponding to a certain period of its life, and through which each individual goes.

By the aid of Dr. Dwight's work it is now possible to tell the exact nature of the plumage of all our specimens, and systematic works of the future must needs adopt the nomenclature of plumages herein set forth if they would be up to date.

The few points left unsettled will, we trust, be cleared up in the near



future. Meantime all ornithologists owe Dr. Dwight a debt of gratitude for one of the most important contributions to recent ornithological literature.— W. S.

**Grinnell's 'Birds of the Kotzebue Sound Region.'**<sup>1</sup>— This is the first brochure of a new series of publications, the 'Pacific Coast Avifauna,' by the Cooper Ornithological Club of California.

The region with which Mr. Grinnell deals "includes the district coastwise between Cape Prince of Wales and Hope Point, and thence eastward to the headwaters of the streams flowing into Kotzebue Sound," and consists of the "valleys of the Noatak, Kowak, Selawik and Buckland Rivers, as well as several smaller streams, all of which empty into Kotzebue Sound." Mr. Grinnell, in a schooner yacht, reached the vicinity of Cape Blossom July 9, 1898, with a company of prospectors "to explore the Kowak Valley for gold or any other valuable resource this little-known country might afford." They were provided with lumber and machinery for the construction of a stern-wheel steamer for use on the larger streams of the region. While the expedition proved unsuccessful in its search for gold, it afforded Mr. Grinnell excellent opportunity for ornithological work during the year or more spent in this interesting region, the results of which are here detailed.

After describing the character of the country visited, the author gives an extensively annotated list of the birds observed, numbering 113 species, which is followed by a bibliography of Kotzebue Sound ornithology, and a 'Checklist of the Birds of the Kotzebue Sound Region,' numbering 150 species, based on the authorities cited in the bibliography, supplemented by his own observations. A map of the region shows the localities visited.

Mr. Grinnell's paper is thus a most valuable contribution to Alaskan ornithology. His notes on many of the birds met with are quite extended, sometimes occupying several pages, and greatly increase our knowledge of their breeding habits and seasons of arrival and departure, and there are also important technical notes. His accounts of the two species of Ptarmigan, the Willow Ptarmigan and the Rock Ptarmigan, are especially full and interesting, and include valuable notes on the moulting of these species, and the use of the black ocular stripe in the Rock Ptarmigan. He says: "The natives say this black is so the Rock Ptarmigan, which live on the mountains where the snow covers the ground till midsummer, will not be blinded by the intense glare. The natives themselves, in the spring before going out on a days hunt, thoroughly blacken the region around their eyes and across the nose, with soot, to prevent snow-blind-

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<sup>1</sup> Birds of the Kotzebue Sound Region, Alaska. By Joseph Grinnell.= Pacific Coast Avifauna No. 1, Cooper Ornithological Club of California, Santa Clara, Cal., Nov. 14, 1900. Roy. 8vo, pp. 1-80, and map.

ness. This is certainly an interesting suggestion, for on May 28, at the snow line on the Jade Mountains, as before stated, the males were still in white plumage, except the useful transocular black."

In speaking of the Willow Ptarmigan, he says that late in the fall of 1898, before any snow had fallen, he found "these white birds very conspicuous wherever they were." They were also then very shy, but later, after the snow came, "would allow of a much closer approach, but were correspondingly difficult to discover." When the sky was overcast with a dense haze, he says, obscuring the direct rays of the sun, but with an intense even light, the Ptarmigan "were extremely hard to distinguish against the blank whiteness of the landscape. Only some movement of the black bill or eye could betray their presence, and often I have unknowingly approached the birds on the snow within a few yards. . . . But on a clear day, when the sun shines unobstructedly, even white objects are brought out in relief by their dark shadows. The Ptarmigan are then discernible for several hundred yards."

Speaking of the moult of this species he says: "The male Willow Ptarmigan thus undergoes at least three distinct moults during the year, though but one of these, that in the fall, is complete,"—a pleasing confirmation of Dr. Dwight's recent conclusion from a study of museum specimens (Auk, XVII, p. 163). Notwithstanding Mr. Grinnell's study of these birds in the field, from fresh specimens, throughout the year, it ought to be a suggestive fact to those who believe that Ptarmigan change color without moult that Mr. Grinnell makes no reference to such a change, but ascribes the seasonal changes of color to moult, and has the hardihood to point out just how they take place.

Mr. Grinnell considers the Alaskan Spruce Partridge as inseparable from the Labrador form (*Canachites canadensis labradorius* Bangs). The Alaskan form of the Northern Shrike is here separated as a new subspecies, under the name *Lanius borealis invictus*.

The Cooper Ornithological Club is to be congratulated upon having secured so interesting and valuable a paper as Mr. Grinnell's 'Birds of the Kotzebue Sound Region' as their opening article for their new 'Pacific Coast Avifauna' series.—J. A. A.

'Sharpe's' Hand List of the Genera and Species of Birds,' Vol. II.—In 'The Auk' for January, 1900 (pp. 79-81), we had the pleasure of calling attention to the first volume of this indispensable work. We then stated so fully the character of the work that we have now merely to chronicle the appearance of Volume II<sup>1</sup> and briefly state its scope. The first volume included the orders I-XXVII of Dr. Sharpe's classification, or all the members of the class, living and extinct, from the Saururæ to the end of the Strigiformes. The present volume records the Psittaci

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<sup>1</sup> Volume II, London, 1900. 8vo, pp. i-xxv+1-312.

and what are known generally as 'Picarian' birds, or Sharpe's Orders XXVIII-XXXIII, the Woodpeckers standing at the end of the series as a 'suborder' Pici of his Piciformes. According to statistics given in the preface, Volume II includes 454 genera and 2861 species, making for the two volumes 1284 genera and 6487 species. Compared with Gray's 'Hand list' of 1871, we have an estimated increase of about 500 genera and 1500 species during the thirty years that have passed since the publication of Gray's work.

Dr. Sharpe calls attention to his having "reverted to the old-fashioned name of *Cypselus* for the Swifts, instead of *Apus* of Scopoli," affirming: "For my own part I gladly accept any excuse which restores such a well-known name as *Cypselus*." His excuse is that Scopoli used the name *Apos* for a group of Crustacea in the same work in which he employed *Apus* for the Swifts, *Apos* also having some 80 pages precedence. Although doubtless words of wholly different origin, their 'correct' latinization, it is claimed, would give the same form, *Apus*, for both. But the two names were not thus written originally, and were enough different in form to give no real inconvenience. It is here, as in so many other cases, only the 'emendation' rule that gives rise to trouble. But Dr. Sharpe would even go further, and, citing the case of *Pica* and *Picus*, says, "but I think that even in this case it may perhaps be better to suppress *Pica* as the generic name of the Magpies;" yet, in speaking of *Cypselus*, a few lines later, he says, "and I can only regret that equally good reasons cannot be found to replace some of the old-fashioned generic names which recent research proves to have been antedated." Although *Pica* comes into the category of "old-fashioned generic names," we fear its fate when our author reaches it in the 'Hand-list.'—J. A. A.

**Dubois's 'Synopsis Avium.'**—Since our notice of Part I of this useful work (Auk, XVII, p. 81), Parts II, III and IV<sup>1</sup> have appeared, carrying the work to p. 288 and pl. vi. Part II contains the Pici, Heterodactylæ, Amphibolæ, Anisodactylæ, and Macrochires; Part III, the Macrochires, Tracheophonæ, and Oligomyodæ; Part IV, the Tyrannidæ, Hirundinidæ, Ampelidæ, Paramythiida, and part of the Muscicapidæ. The number of genera thus far treated is 747, and the number of species, 4014, with 909 additional subspecies. As shown by the names of the groups just cited, the nomenclature of the higher groups is very different from that employed in the British Museum 'Hand-List,' and the method of treatment is also quite different, Dubois's 'Synopsis' being closely modelled after Gray's 'Hand-list'; but it gives fuller references, and being well brought down to date, will prove a most helpful manual of reference for all workers in systematic ornithology. We are glad to see the work

<sup>1</sup> Fascicule II, 1900, pp. 81-160, pl. ii; Fascicule III, 1900, pp. 161-224, pll. iii and iv; Fascicule IV, 1900, pp. 225-288, pll. v and vi.

making such satisfactory progress, the author having thus far well kept his promise to bring out the work in quarterly parts till completed.—  
J. A. A.

**Shelley's 'Birds of Africa.'**<sup>1</sup>—This work on the Birds of Africa, by an author so well known as Captain Shelley, promises to be one of the most important of recent faunal publications on ornithology. The work has for its scope all of Africa south of 1° N. lat., and Madagascar. The first volume, published in 1896, consists of a list of the species and higher groups, and may be called, as the author says, a 'Nomenclator Avium Æthiopicarum.' The number of species is 2534, and includes the generic synonymy and references to the authorities for the species names as adopted, to the British Museum 'Catalogue of Birds,' and to works where the species have been figured. The list begins with the Passeres, or Passeriformes, and ends with the Struthioniformes.

Volume II was issued in two parts during the year 1900. In the preface to this volume the author states, after some remarks on the classification adopted, his method of treatment to be as follows: "With regard to the synonymy of the species: I begin with what I consider to be the most correct name: quote the 'Catalogue of the Birds of the British Museum,' where full synonymy is given in detail, and add only such references which have not appeared in that great work. I follow on with a description of the plumage, taken, when possible, from the specimens in the British Museum, . . . and finish with all the details I can find regarding the distribution and habits of the species which I consider to be of interest. The colored plates are intended to illustrate, in the best possible style, . . . all the hitherto unfigured, or incorrectly figured, species" of the Æthiopian Region. The fourteen plates in volume I illustrate 29 species, and are of a high grade of excellence. The heavy paper and clear and pleasing typography of the text leave nothing to be desired in the way of book-making.

Volume II gives descriptions and biographies of 169 species, beginning with the genus *Pitta* and ending with *Anthus*, and includes keys for the higher groups as well as for the species. The biographical matter is naturally variable in amount, being quite extended in the case of well-known species, and necessarily meagre in others.

<sup>1</sup> The | Birds of Africa, | comprising all the species which occur | in the | Ethiopian Region. | By | G. E. Shelley, F. Z. S., F. R. G. S., &c. | (late Grenadier Guards), | Author of 'A Handbook to the Birds of Egypt', 'Monograph of the Sun-birds,' etc. | — | Vol. I. | List. | — | London: | Published for the Author by | R. H. Porter, 18 Princes Street, Cavendish Square, W.—4to, Vol. I, 1896, pp. i-viii + 1-196; Vol. II, Part 1, 1900, pp. 1-160, pll. i-vii; Part 2, 1900, pp. i-vii + 161-348, pll. viii-xiv. Price, Vol. I, 10s 6d net; each part of Vol. II, 21s net.

Just how many volumes this magnificent work is intended to make is not stated, but the remaining parts, we are told, will probably be issued in yearly volumes. We trust nothing will prevent its early completion as planned. — J. A. A.

**'Audubon Bird Chart No. 2', and 'Common Birds, Second Series.'** — The prominence given by the press to the efforts of the Audubon Societies to discourage the use of birds for millinery purposes, has so largely confined the knowledge of the public to this side of their work, that we are glad to call attention to its educational influence, well illustrated by the publication under the auspices of the Massachusetts Audubon Society of its 'Audubon Bird Chart No. 2,' and the accompanying letter-press by Mr. Hoffmann, entitled 'Common Birds, Second Series.'<sup>1</sup> Like Bird Chart No. 1, which was issued in 1898, it contains life size figures of twenty-six common birds, drawn in colors by Mr. Edward Knobe and reproduced by the Prang Educational Company. While somewhat stiff in outline, the birds, in the main, are posed in characteristic attitudes, and have been lithographed with such remarkable success that but few plates published in this country approach them in accuracy of coloring. The birds represented on the Chart are treated biographically by Mr. Ralph Hoffmann in an accompanying pamphlet of twenty pages. The two combined, therefore, furnish an effective means for becoming acquainted with the appearance and habits of twenty-six species of birds, and they may be heartily commended to students, and especially to teachers. — F. M. C.

**Transportation and Sale of Game.** — As the 'Lacey Act,' approved May 25, 1900, supplements the existing State laws for the protection of birds and game, "by prohibiting the shipment from one State to another of birds killed in violation of local laws, and by subjecting birds brought into a State to the same restrictions as those prescribed for birds produced within the State," it becomes important to know the provisions of all the local laws on the subject of game and bird protection, which vary not only in different States, but often in different parts of the same State. To render such knowledge generally accessible, a Report<sup>2</sup> on the subject has been issued by the U. S. Department of Agriculture, forming

<sup>1</sup> Audubon Bird Chart No. 2. Prang Educational Co., Boston and New York. Price, \$1.30.

Common Birds: Second Series. By Ralph Hoffmann. Massachusetts Audubon Society, Boston, 12mo, pp. 20.

<sup>2</sup> Bulletin No. 14, U. S. Department of Agriculture, Division of Biological Survey. Laws Regulating the Transportation and Sale of Game. By T. S. Palmer and H. W. Olds, Assistants, Biological Survey, Prepared under the directions of Dr. C. Hart Merriam, Chief of Biological Survey. Washington: Government Printing office. 1900. — 8vo, pp. 89, pll. i-ix (= maps and diagrams).



'Bulletin No. 14' of the Biological Survey, entitled 'Laws Regulating the Transportation and Sale of Game.' It has been prepared by Dr. T. S. Palmer, in charge of the immediate supervision of matters relating to game under the Lacey Act, with the assistance of Mr. H. W. Olds. It forms a pamphlet of about ninety pages, with nine maps and diagrams, showing the open and close seasons for various kinds of game in the different States, etc. The pamphlet consists of (1) a general discussion of legislation regulating seasons, shipment, and sale (pp. 11-44), and (2) a digest of Federal and State laws regulating transportation and sale of game. Thus in a small and convenient compass may be found, clearly arranged, every kind of information desired respecting the protection afforded game animals, game birds, and non-game birds in any part of the United States. It represents a vast amount of labor, with results of the highest importance to all interested in any way in the protection, capture, sale, and transportation of game, and of millinery supplies derived from wild birds.—J. A. A.

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## NOTES AND NEWS.

'THE AUK', beginning with the present number, will be issued by the Union, and not through a publisher, as heretofore. Mr. William Dutcher, Treasurer of the A. O. U., will act as its Business Manager. Hence all correspondence relating to subscriptions, changes of address, advertisements, and the sale of any of the publications of the Union, should be addressed to William Dutcher, 525 Manhattan Ave., New York, N. Y.

At the last meeting of the A. O. U., held in Cambridge, Mass., a Finance Committee was established to take charge, under instructions from the Council, of its business affairs, and especially to provide funds for carrying on its publications. This Committee consists of Mr. Ruthven Deane, Chairman, the Treasurer and Secretary of the Union, the Editor of 'The Auk,' and Mr. William Brewster.

**Notice to Contributors.**—Complaint has justly been made of the habitual late appearance of 'The Auk,' which has heretofore been issued from one to two or three weeks after the ostensible date of publication, —the first day of the month of date of the respective numbers. Great effort has been made to correct this evil, which is not by any means wholly due to the dilatoriness of either the editors or the printer, except that the former have been too lenient with tardy contributors. It has been customary to receive contributions up to as late as the tenth day of the month preceding the date of publication, and frequently long-promised articles —often also the longest in the number—have not reached the editors until the time had arrived when the whole number should have been in type and 'made up.'

This is to give notice that in future all 'copy' for general articles must reach the editors six weeks before the date of their desired appearance, and all contributions to the department of 'General Notes' and 'Recent Literature' must be in the editor's hands by the first of the month preceding the date of publication of the number for which such contributions are intended; otherwise they will be held over for the following issue. In other words, articles intended for the April number should be sent in not later than the middle of February, and minor contributions by the end of the month, and as much earlier, especially in the case of the former, as may be practicable.

IT HAS been decided to published the lists of Officers and Members of the Union in the October number of 'The Auk' instead of in the January number, as heretofore. In this way it will be possible to give the status of the Union in respect to membership with greater exactness than can be done at the beginning of the year, before all the members-elect have had time to qualify.

A CONFERENCE of Audubon Society delegates, representing nine Societies, was held in Cambridge, Mass., on the afternoon of Nov. 15, 1900, in conjunction with the A. O. U. Congress, the whole day being devoted to the subject of Bird Protection. The morning session of the A. O. U. was wholly occupied with the annual report of the A. O. U. Committee for the Protection of Birds, a general report on the work of the Committee being made by its Chairman, Mr. Witmer Stone, followed by special reports by Mr. William Dutcher on the protection of Gulls and Terns through aid of the Thayer Fund, and by Dr. T. S. Palmer on the legal aspects of the subject, with special reference to the Lacey Act, its provisions and scope. The Stone and Dutcher reports are given in full in the present number of this journal. We regret that Dr. Palmer's very interesting and encouraging report of what has already been accomplished through the enforcement of the Lacey Act for the suppression of traffic in the skins and plumage of birds for millinery purposes cannot be given with equal fulness. At the conclusion of these reports the Union adjourned, to enable its members to attend the Conference of Audubon Societies.

The Conference was opened by an introductory address by Dr. C. S. Minot; Mr. Ralph Hoffmann spoke of the desirability of coöperation on the part of the several societies, and of federation to secure greater unity of action; Mrs. Mabel Osgood Wright, President of the Connecticut Society, gave an account of the method adopted by this Society to awaken interest in bird protection, namely, the preparation of a series of traveling lectures, accompanied by series of finely colored lantern slides, and a lantern; the cost of furnishing such means of instruction the Society had found to be a most satisfactory investment. In explanation of their character and purpose, Mrs. Wright read the lecture entitled 'The Birds About Home,' illustrated with seventy colored slides. Mr. Frank M. Chapman, in speaking on 'What Can we do for Our Members,' referred to the remarkable success that had attended the introduction of bird-study into the Chautauqua course, under the direction of Mrs. Florence Merriam Bailey, and urged that the Audubon Societies organize similar classes as a prominent feature of their work. Miss Justice of the Pennsylvania Society reported that this method had already been tried in that State with excellent results. Dr. T. S. Palmer of the District of Columbia Society gave an account of the methods employed by that Society to provide teachers trained for nature-study work. Finally a Committee was appointed to formulate plans for the federation of the Audubon Societies, and the Conference adjourned to meet in New York City in 1901, during the Congress of the A. O. U. to be held there in the second week of November.

The Conference brought out the evident fact that the lines of greatest usefulness for the Audubon Societies are not emotional or sentimental but educational and practical,—to make known the value of birds to man, and to perfect legal measures for their protection.

IF EVIDENCE were needed that 'Bird-Lore' successfully fills its double rôle of a magazine "devoted to bird study and bird protection," it is undoubtedly furnished in the greatly increased size of the magazine and its program for a course in bird-study outlined and initiated in the number for December, 1900. Its chief feature during the coming year will be a series of articles and 'lesson-outlines' on 'Birds and Seasons.' It is the editor's hope that this may be a "starting point in the development of an idea which includes a school of popular ornithology, with a summer encampment where both class-room and field instruction could be given by a corps of experienced teachers." If "To know birds is to love them," as one author has happily said, we cannot have a better safe-guard for our birds than the kind of bird-study here contemplated.

AT THE last Congress of the A. O. U. steps were taken to amend the By-Laws of the Union in reference to the classes of membership. When the Union was founded in 1883, the list of 43 Active Members then admitted, either as Founders or as original members, included all of the ornithologists in North America who had attained any degree of prominence, and the limitation of the Active list to 50 members did not then seem unwise. During the last fifteen years North American ornithology has advanced with unlooked for rapidity, so that the number of prominent workers in this field has now greatly increased. Hence each year the competition for the few vacancies in the Active list has necessarily resulted in the raising of the standard for admission, and finally to the recognition that the limit of 50, while ample fifteen years ago, is now too narrow. It has also become apparent that the large and constantly increasing body of Associate Members contains very diverse material, which should be reclassified. In view of these facts it has been deemed wise to segregate from this material a new class of members, enrolment in which shall be a recognition of noteworthy work in ornithology.

The amendments to the By-Laws, duly proposed and approved at the last meeting, but which will come up for final adoption or rejection at the next annual Congress, it is hoped will satisfactorily meet the new conditions. They are (1) the increase of the Active list from 50 to 75; (2) the constitution of a new class of members, also limited to 75, to be elected from the present class of Associates; (3) the change of names of the classes of members, as follows: (a) Active Members to Fellows, and Honorary and Corresponding Members to Honorary and Corresponding Fellows; (b) Associate Members to Associates; (c) giving to the new class the designation of Members. There is apparently little doubt of the ratification of the amendments at the next Congress.

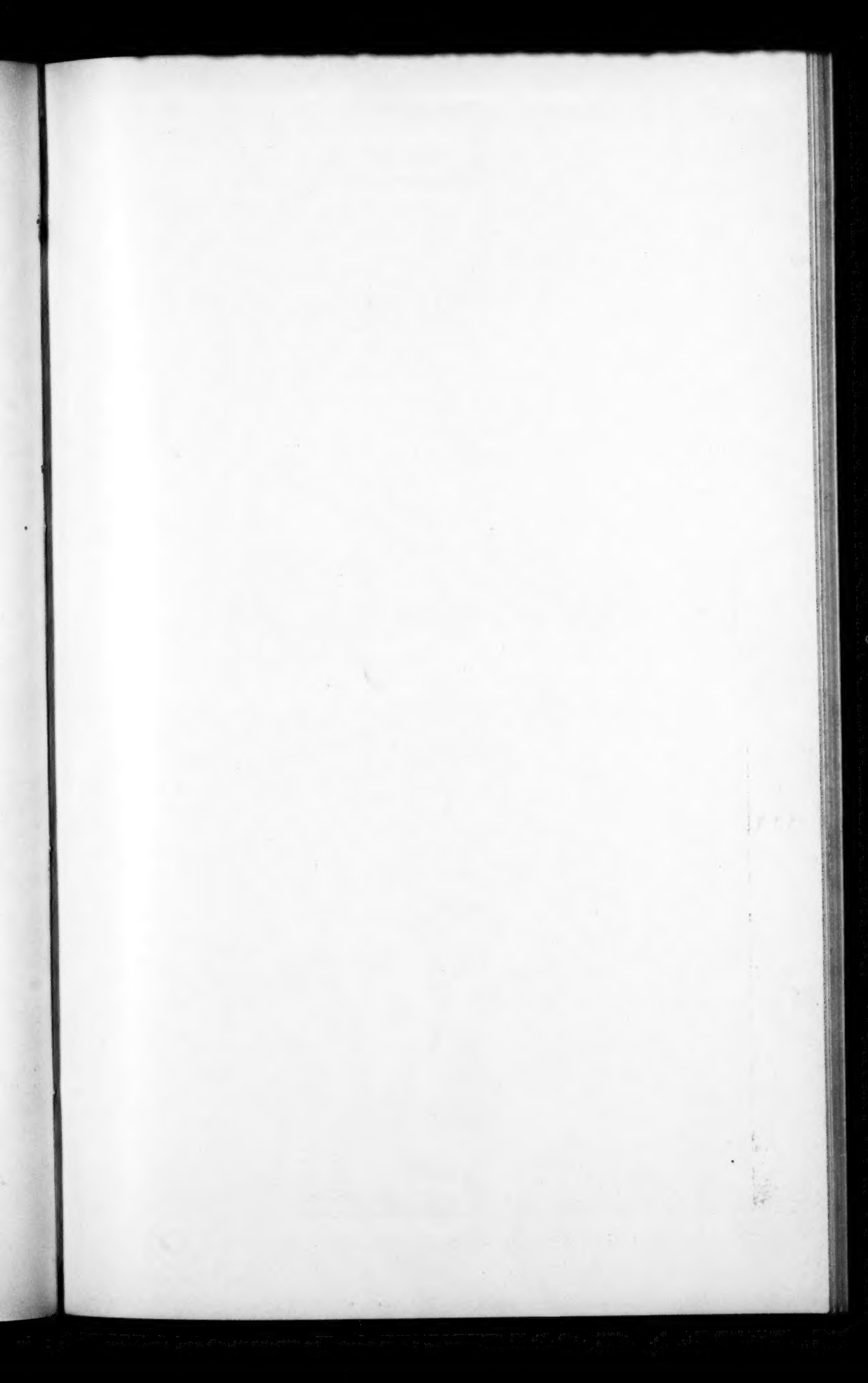






FIG. 1. NEST OF LECONTE'S SPARROW, SHOWING LOCATION.



FIG. 2. NEST OF LECONTE'S SPARROW, SHOWING STRUCTURE.